2017 Code Amendments

Planning Commission Findings, Conclusions and Recommendation

Clustering Mechanism and Tree Retention Code amendments

Summary

Clustered Subdivision PUD (clustering mechanism) Code amendments.
The Planning Commission is basing its recommendation on the recently adopted Fitzgerald / 35th SE Subarea (BMC 12.52) provisions of Ordinance 2163 which includes:

- Use of the PUD process to approve clustered subdivisions
- Applies the same incentive scale where preservation of greater amounts of open space is incentivized with bonus lots;
- Implements the same lot area and circle modifications (50% and 60% reductions);
- Applies the same road reduction standards of the Fitzgerald Subarea and the Green PUD; and
- Utilizes a similar hierarchical preference for the type of open space to be preserved.

Areas where the Planning Commission Recommendation deviates from the Fitzgerald clustering mechanism.
The Commission identified that there are a number of revisions needed to the Fitzgerald clustering mechanism to accommodate the City-wide situation where there are multiple zoning classifications. Those revisions include:

- Require that all clustered PUDs provide a minimum of 10 percent of the net buildable area as open space;
- Alter slightly the hierarchical types of open space to be preserved (retain intact forests, rehabilitated or restored forests, LID facilities such as bio-infiltration and dispersion of surface water and passive open space areas) but amend the list by prohibiting more intense forms of surface water facilities, such as vaults, or buried pipes to be placed within open space areas;
- Ensure that open space areas created through a clustered subdivision PUD only contain trails, benches, picnic tables, and other similar minor improvements that support passive uses and prohibit more intense facilities such as shelters, playgrounds, surface water vaults or ponds, etc.; and
- Allow attached housing (townhouses, duplex, etc.) when significant amounts of open space (40% or more of the net buildable area) is preserved but require a wider (30-foot) perimeter setback and a Type III landscape buffer around the perimeter of the development.

Two issues required considerable deliberation.
The majority of Commission decisions were by consensus. However, two issues required formal motions and votes. Those items were:

- Clustering. The Commission voted 4-3 to prohibit active uses (playgrounds, shelters, storm vaults) within lands dedicated as open space. Again, there was agreement to limit the type of uses within open space areas but some support was expressed for active features such as playgrounds and small park-like structures.
- Tree Retention. The Commission voted 4-3 to recommend a 20 percent tree retention standard (absent clustering and within 'commercial zones'). The discussion was whether to require a 20 percent or a 15 percent tree diameter inches retention. While there is unanimous agreement that an increase

in tree retention is needed, concern was expressed that a 20 percent figure may affect the City's ability to meet its growth targets.

Other key elements of the Tree Retention Code amendments include:

- Establishing more flexibility in meeting the 20 percent tree retention standard within the City's compact, walkable, urban neighborhoods (R-AC, DC, DT, and DN zones);
- Determining how to select which trees to be retained;
- Discouraging unauthorized tree removal through requiring replacement with very large trees;
- Only credit trees within the net buildable area for tree retention. Trees within critical areas or buffers would no longer be credited toward meeting tree retention;
- Allow tree removal of trees when mandatory street or driveway, utility, and other design and constructions standard requirements (e.g. sight distance triangles, intersection locations, roadway gradients, etc.) make preservation infeasible;
- Clarify the criteria the Director of Community Development will use when evaluating which trees to be preserved;
- Re-order the tree retention section (12.18.030) to reflect a more logical sequence;
- Clarify the Director's authority when requiring applicants make minor site plan changes to achieve tree retention. This includes limiting the Director to requiring changes to no more than a 20-foot change (i.e. cannot require a building to be moved more than 20 feet in any direction).

Planning Commission Recommendation: Approve the Code amendments attached to these findings.

Findings

1. **Statutory basis.**
   The Washington State Growth Management Act, codified as Revised Code of Washington (RCW) 36.70A, requires that counties and cities subject to the Act adopt comprehensive plans and implementing development regulations consistent with the Act.

   The Act further provides that each jurisdiction's comprehensive plan and development regulations shall be subject to continuing review and evaluation, and may be amended to reflect changing community needs and desires. Under the Act, development regulations must be consistent with adopted comprehensive plan policies.

2. **The Tree Retention and Clustering Mechanism Code amendments includes:**
   - Amendments to BMC Chapter 11.02 Definitions
   - Amendments to BMC Chapter 12.18 Tree Retention and Landscaping
   - Amendments to BMC Chapter 12.30 Planned Unit Developments

   This Code amendment is supported by a number of Comprehensive Plan policies within the Land Use, Natural Environment, Urban Design, Economic Development Elements and several subarea plans which identify areas for tree retention. The overall approach taken by the Commission is to craft Code language that, increases the number of significant trees that are retained within the community through a number of amendments that are either mandatory such as increasing the minimum amount of tree retention, or incentive-based such as offering bonus lots.

   Consistent with these findings, and the entire record before the Planning Commission, the Commission finds these Code amendments to be consistent with the *Imagine Bothell…* Comprehensive Plan and to be in the best interests of the community.

3. City Council initiation of 2017 Code amendments.
The Bothell City Council formally initiated the Tree Retention and Clustering Code amendments as part of the 2016 'Docket' of Plan and Code amendments. These Code amendments were again initiated on March 21, 2017, with an emphasis on completing the Code amendments by the second quarter of 2017.

4. Geographic Location.
The 2017 Tree Retention and Clustering Mechanism Code amendments apply City-Wide.

5. Public Hearings.
Planning Commission
- January 19, 2017
- February 22, 2017
- March 22, 2017
- April 19, 2017\
- May 3, 2017

City Council
- June 6, 2017

6. Exhibits and other documents submitted
The exhibits received from interested parties during the public hearings for this Code amendment are listed below:
1. E-mail Andy Langford dated 2-10-17
2. E-mail Gary Hasseler, Development Services Manager dated 2-15-17
3. E-mail Andy Loch, Surface Water Coordinator dated 3-
4. E-mail with attachments from Ann Aagaard dated 4-3-17
5. E-mail with attachments from Jeff Staley dated 4-1-17
6. Extracts from the Hearing Examiner Decision regarding the Alton Ridge Preliminary Subdivision dated March 28, 2017
7. Press release regarding Lake Forest Park Tree Retention amendments – Ann Aagaard
8. Letter from Master Builders Association dated April 14, 2017
9. E-mail from Bob and Judy Fisher dated April 18, 2017
10. E-mail from Ann Aagaard dated April 20, 2017
11. Map of Norway Hill Zoning Classifications Submitted by Ann Aagaard May 3, 2017
12. Photos submitted by Ann Aagaard May 3, 2017

7. Public Notice. Public notice for the proposed code amendments was provided through the following methods:
- *Imagine Bothell…* notice. The City of Bothell provides a monthly notice to citizens, interested parties and news media which, in general, describes upcoming hearings and the topics of those hearings, and explains potential ramifications of decisions which may occur from actions of the City. This notice is provided at the end of the month for the subsequent month's hearing schedule. The *Imagine Bothell…* notice also contains information which directs inquiries to city staff, the City web page, and telephone contact numbers.

    - Notice of the public hearing dates for the proposed code amendment was published in the January, February, March, April, and May 2017, editions of the *Imagine Bothell…* notice.

    - The *Imagine Bothell…* notice is sent via e-mail and/or regular U.S. Postal Service mail to all parties who have signed up for the service (approximately 200 persons).

- The *Imagine Bothell…* notice is published in The Seattle Times, the City's Newspaper of Record, once a month on either the first, second or third day of the month.

- The *Imagine Bothell…* notice is also regularly posted on the City's web page at www.ci.bothell.wa.us.

- The City maintains a number of public notice boards which are placed throughout the City at certain accessible and visible locations. Each of these notice boards contains a plastic box where extra copies of the *Imagine Bothell…* notice are stored and are available for retrieval by any interested citizen. These boxes are filled with paper copies of the notice each month.

- The *Imagine Bothell…* notice is also publicly posted at City Hall, Municipal Court Building, and the Bothell Post Office.

- Community Development Staff also prepared an e-mail list of parties who have expressed a desire to receive information regarding these Code amendments. These parties were informed whenever the Planning Commission agenda for the hearing was available for viewing on the City's Web page.

8. **Department of Commerce Review**. In accordance with Section 365-195-620 of the Washington Administrative Code (WAC), an electronic copy of the proposed 2017 Tree Retention and Clustering Mechanism Code amendments were transmitted to the state Department of Commerce for its review and routing on March 30, 2017.

9. **Acknowledgment of City Council action regarding the Fitzgerald / 35th SE Subarea Plan Clustering Mechanism**

The Planning Commission acknowledges the recent approval (2016 Plan and Code amendments approved December 27, 2017) by the Council of a clustering mechanism applicable to the Fitzgerald / 35th SE Subarea. Staff has briefed the Commission on this endeavor and the Council's effort to craft a number of regulatory protections, including clustering, to protect a number of special features within the North Creek Protection Area (NCPA) which contains extensive fish and wildlife habitat. The Fitzgerald /35th SE clustering mechanism, in conjunction with a number of specific Low Impact Development Surface Water Control practices, and other regulatory protections, were evaluated for consistency with Best Available Science and Best Management (engineering) Practices.

The Planning Commission finds that the Fitzgerald clustering approach should be the basis of any City-wide clustering mechanism.

10. **Establishing the Need for a Clustering Mechanism Code amendment**

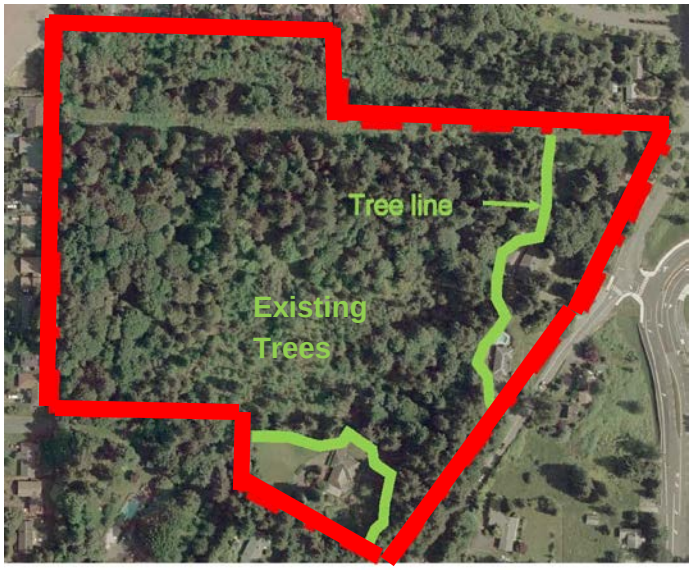
Recent developments under the City's detached (single family) residential regulations such as those applied within the R 9,600 zoning classifications which are depicted in **Figures 1** through **6** below, have resulted in the removal of significant portions of forested areas and significant re-configuration (in the form of grading) of the subject properties. According to representatives for the development industry, the primary reason these sites are re-configured is directly related to the City's mandatory minimum lot area and minimum lot dimension (lot circles) regulations which require the applicant to 'fill-up' the entire net buildable area of a development site with lots, buildings and roads in order to achieve the lot yield anticipated for within the *Imagine Bothell…* Comprehensive Plan.

Figures 1 through **6** compare 'before' and 'after' aerial photos of recent (post 2008) developments. The developments selected for sampling purposefully range in size and configuration to establish a better understanding of what is occurring within the City's single family residential areas.

It should be noted that all of these developments fully complied with the City's previous or current tree retention standards. Note, if constructed prior to 2012, the requirement was the retention of at least 10 percent of the number of trees on the property. If constructed after 2012 (current regulations) the requirement was to retain a minimum of 10 percent of the diameter inches of significant trees on the subject property.

Figure 1 - Parkhurst Plat – 59 lots

Before



After

Figure 2 - Erin Estates – 13 lots

Before

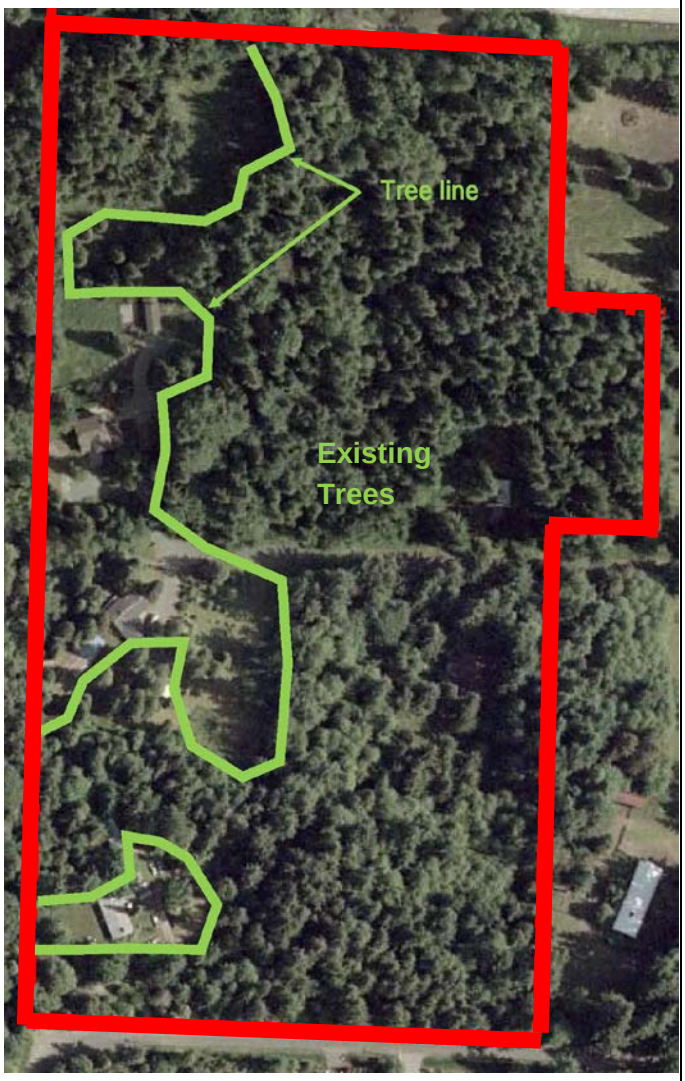
After

Figure 3 - Canfield Hopkins - 32 lots

Before	After
	

Figure 4 - Crown Woods – 68 lots

Before



After

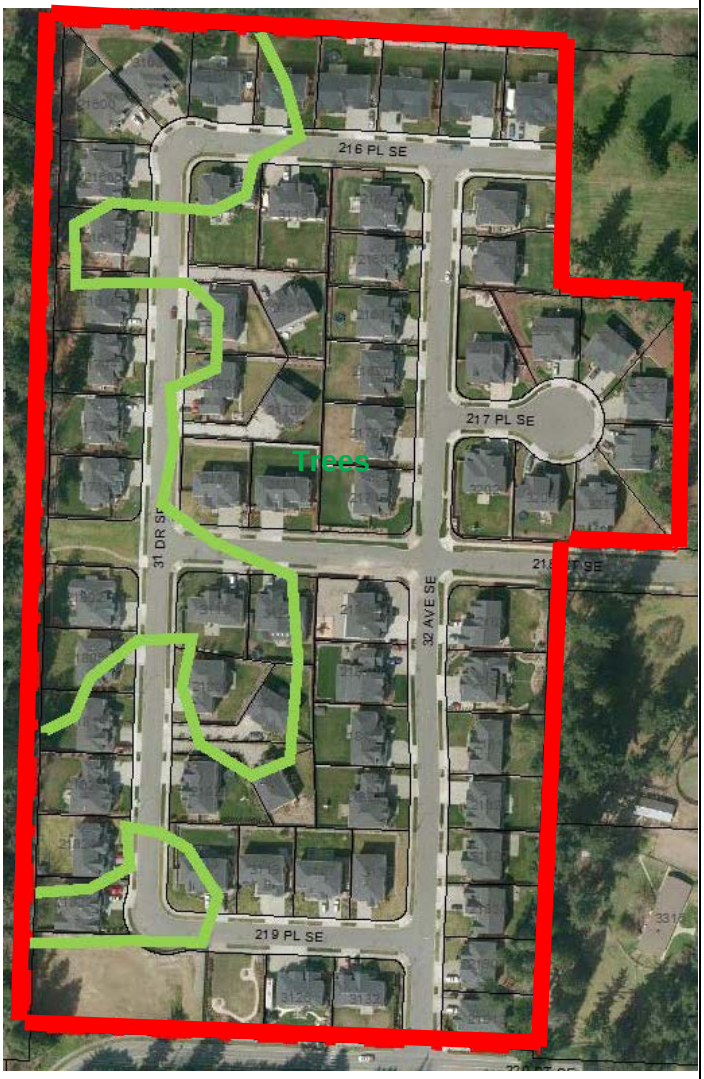
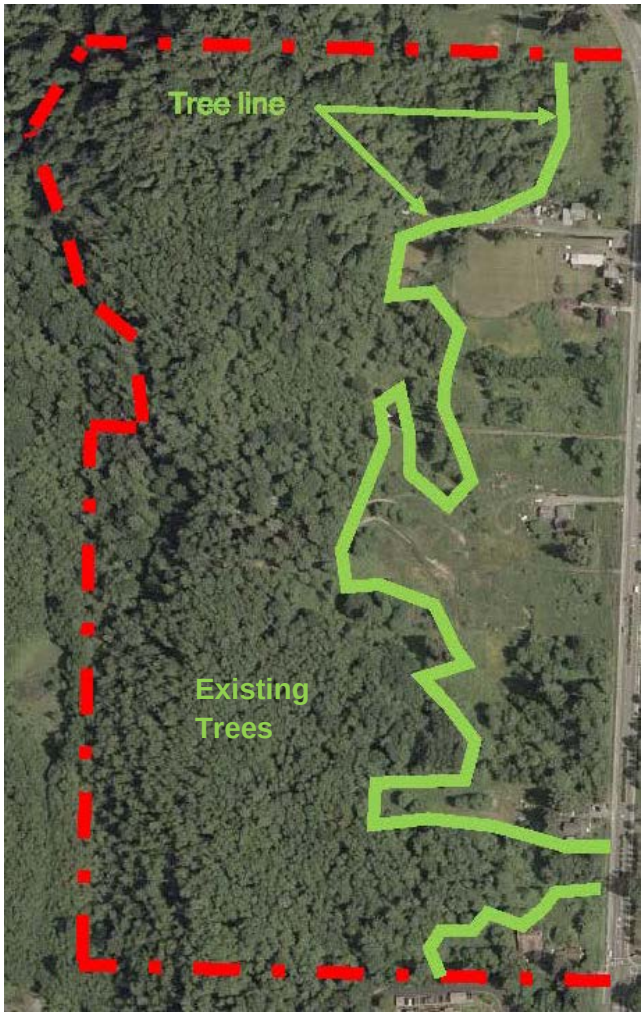


Figure 5 - McClain Planned Unit Development – 16 lots

Before	After
	

Figure 6 - Bentley – 162 lots

Before



After

These before and after aerial photos demonstrate the single family residential development that has been and is occurring under the City's previous and current tree retention and zoning regulations.

The Planning Commission finds that the current tree retention and zoning code requirements do not promote the adequate retention of existing trees or open space within detached single family residential zones. The Planning Commission further finds that a clustering mechanism is warranted and can be an effective method of implementing the City's Comprehensive Plan Policies related to tree retention and open space preservation.

11. Need for tree retention Code amendments

Development review staff (**Exhibit 2**) have identified concerns with the current provisions regarding tree preservation within Chapter 12.18 BMC 'Landscaping'. The issues are:

1) The current provisions of 12.18.030(A) contain a list of criteria when the City evaluates developments for compliance with tree / vegetation retention. This list should be simplified and clarified to make these provisions easier to administer;
2) Development review staff have requested that BMC 12.18.030(B), which requires preservation of 10 percent of the total diameter in inches of the significant trees on site, be amended to provide

additional clarity regarding the location, type and extent of trees to be preserved and to identify that the 10 percent is a minimum standard.

3) It is also important to clarify which trees may be credited toward tree retention. Some land characteristics, such as wetlands, streams and associated buffers, are required to be preserved in a natural condition which essentially means that trees within those areas are preserved regardless of the tree retention requirements. In other words, tree retention should be based upon the net buildable area of a site.
4) The Hearing Examiner Decision regarding the Alton Ridge Preliminary Subdivision (**Exhibit 6**) demonstrates the lack of clarity of the current Tree retention provisions of BMC 12;18.030 in that both the applicant, City staff and the Hearing Examiner, had different understandings of these Code requirements.

The Planning Commission finds, the 10 percent retention figure does not result in an appreciable amount of saved trees on these development sites. Further, the Planning Commission finds that an incremental increase (say, for example, going to a 15 percent tree diameter inches retention) by itself is insufficient to retain trees. A more complete amendment of 12.18.030 is necessary to implement the emphasis the Comprehensive Plan places upon the retention of existing, significant trees.

The Planning Commission finds there is a need to update and clarify a number of provisions of the City's Tree Retention provisions within BMC 12.18.030.

12. Existing code provisions

There is a need to understand both the City's existing regulations regarding tree retention and the existing zoning code provisions of BMC 12.14 and 12.30 to ascertain the code impediments to preserving open space.

To visually illustrate these concepts, staff created three 'test sites' and applied different clustering and tree retention approaches to each test site. The test sites are described and are illustrated on the following pages.

Figure 7 – The first test site

- A gross site area of 231,000 sq. ft. or 5.3 acres
- Contains wetlands, a stream and associated buffers comprising 50,150 sq. ft. or 21.7% of the site
- Also has 11,700 sq. ft. of 'intact forest area'.
- There are a total of 62 trees of 1,258 diameter inches of which 43 trees of 878 diameter inches are within the net buildable area of the site (trees shown as green circles)

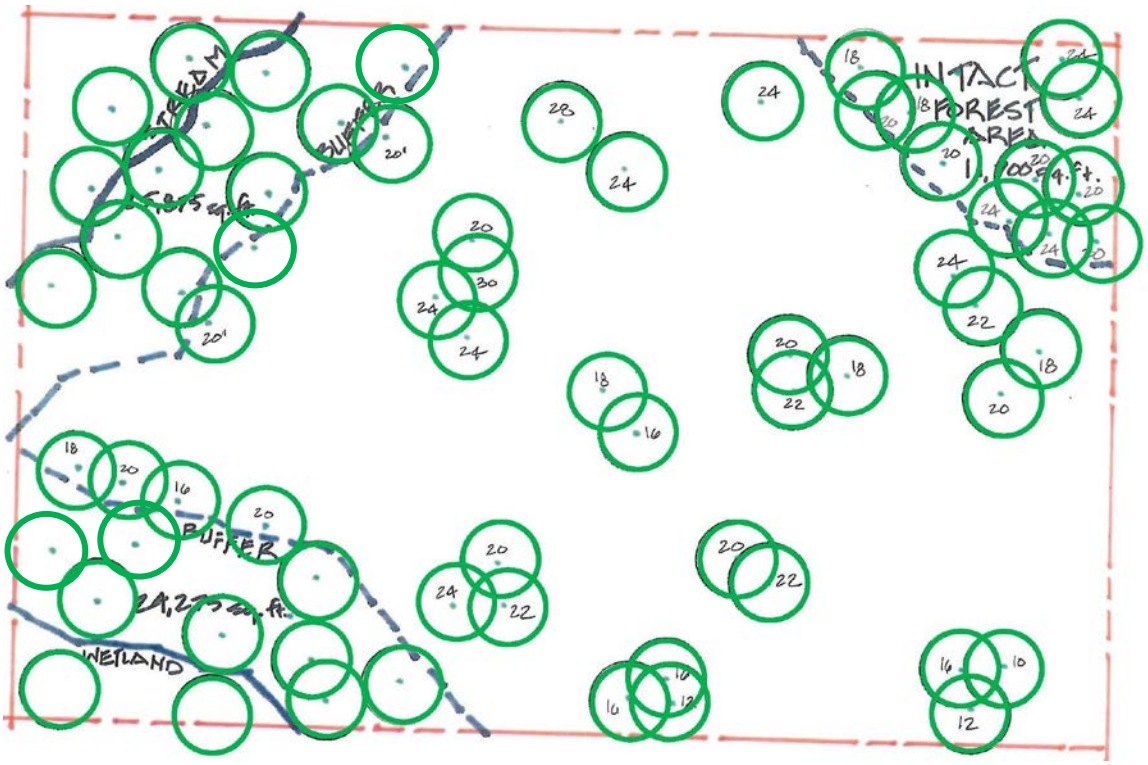


Figure 8 – The Second Test Site

- A gross site area of 231,000 sq. ft. or 5.3 acres
- Contains No wetlands, streams or associated buffers
- There are no existing trees on the second test site.

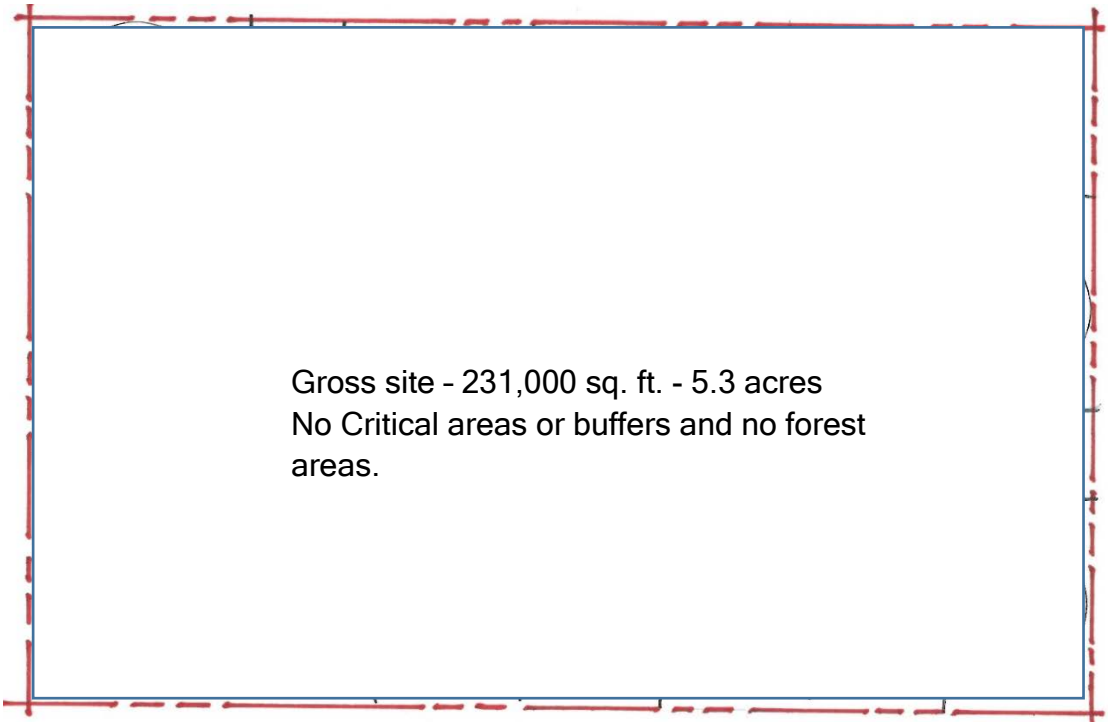
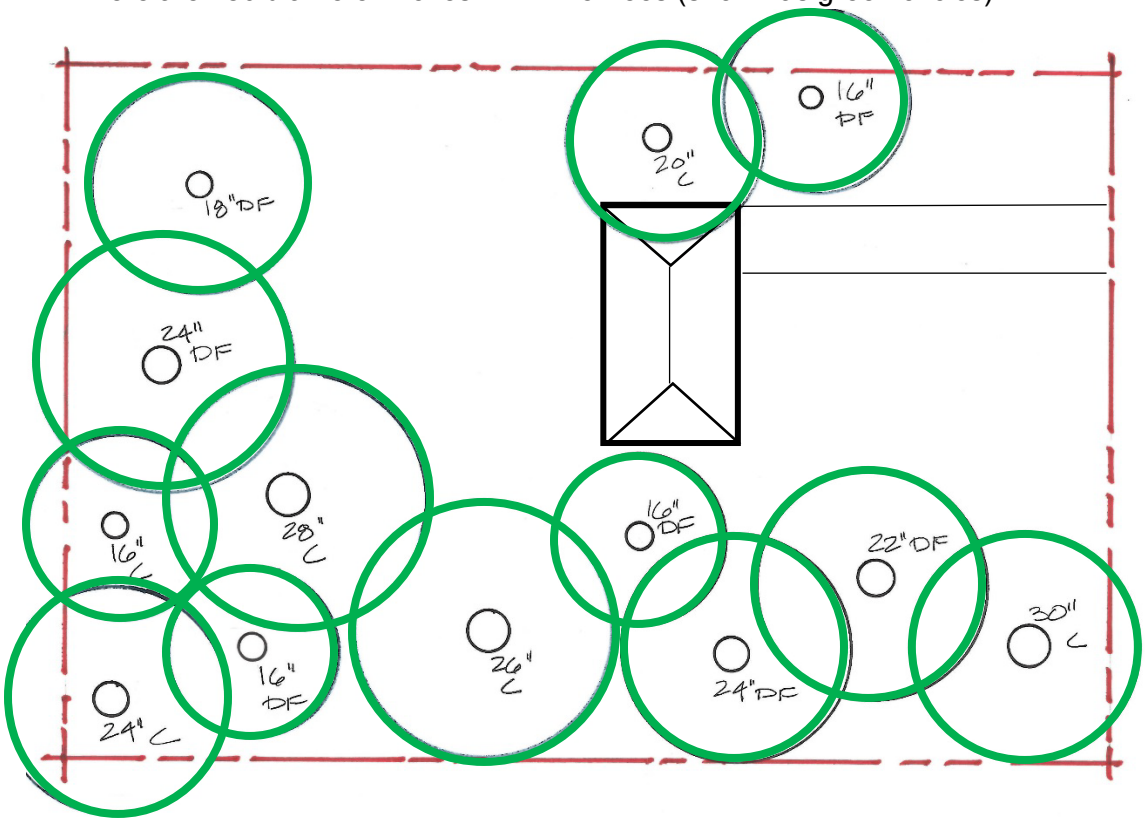


Figure 9 – The Third Test Site

- A gross site area of 50,094 sq. ft. of 1.15 acres
- Contains No wetlands, streams or associated buffers
- There is an existing single family residence on the site (an underutilized site)
- There are 280 diameter inches within 13 trees (shown as green circles)



Each of these test sites are used to illustrate different aspects of these potential Code amendments

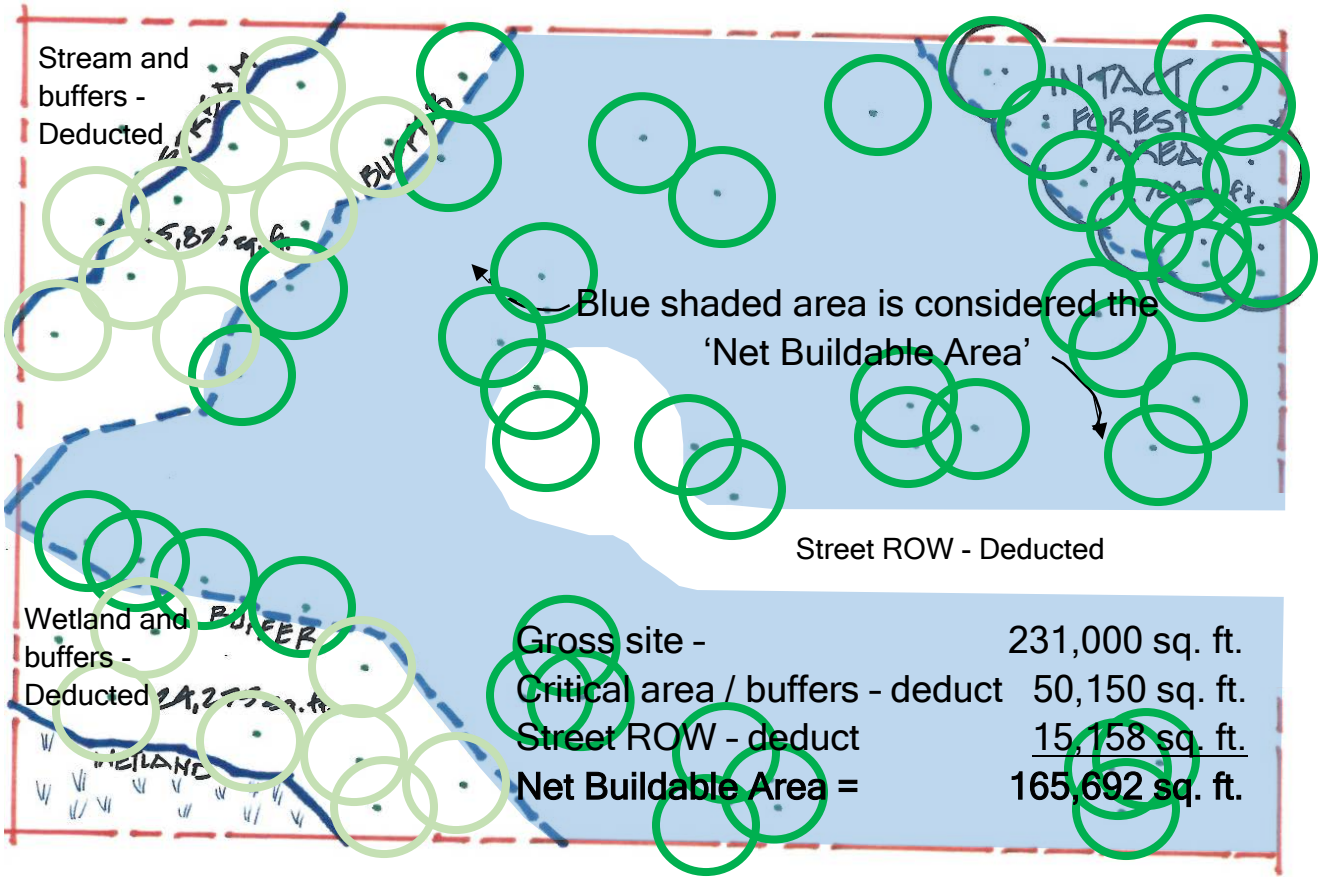
13. Understanding Net Buildable Area

The City of Bothell bases its residential dwelling unit and lot yield upon a site's 'net buildable area'. The net buildable area is determined by mapping the gross site area, all critical areas and associated buffers, and the locations of all street rights-of-way needed to serve the development. Those areas are then deducted from gross site area thereby resulting in the net buildable area of the development. The net buildable area is where houses, buildings, parking lots, etc. may be placed.

Figure 10 below shows the net buildable area, in blue, of the first test site (the other test sites, which contain no critical areas where the entire site except roadways is net buildable area are not shown). Deducted areas such as critical areas, their buffers, and Street ROW are shown in white background.

Green circles represent trees within the net buildable area. Pale green circles are trees within the critical area or critical area buffer. It is important to note that, under current critical area regulations of Chapter 14.04 BMC, 100 percent of the trees within critical areas and buffers are retained.

Figure 10 – 'Net Buildable Area' - illustrated



14. Understanding Lot yield

The City-wide development regulations of BMC 12.14.030(B) contains two methods to determine the number of dwelling units or lots allowed on a given property. One method, (BMC 12.14.030(B)(3) applies to attached residential development. The other method, (BMC 12.14.030(B)(4) is employed for detached residential development.

BMC 12.14.030(B)(3) (attached method) is a mathematical calculation where the net buildable area is divided by the minimum area per dwelling unit of the underlying zoning classification. If the test site was zoned for example, R 5,400a the calculation looks like:

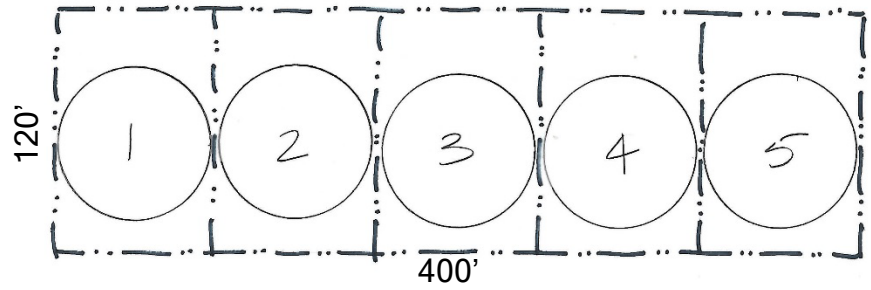
165,692 ÷ 5,400 = 30.68 or 30 dwelling units (implementing regulations do not allow rounding up)

BMC 12.14.030(B)(4) (detached method) requires the physical plotting of the minimum lot area and minimum lot circle upon the net buildable area of the site. This process is referred to as the 'lot by lot' layout' because, the minimum lot area and minimum lot circle is applied lot by lot until the 'net buildable area' is filled-up and cannot accommodate any additional lots. A true mathematical calculation is not employed under current regulations as a means of determining the number of lots permitted.

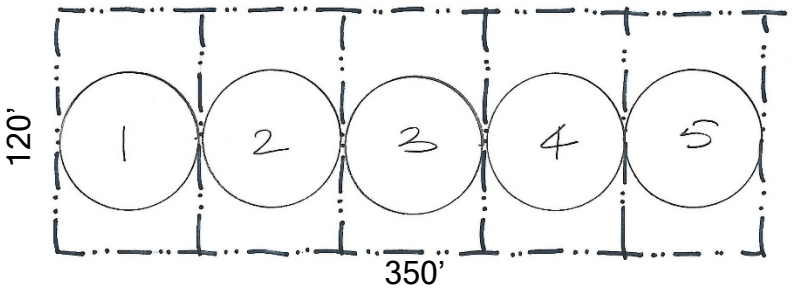
The figure below illustrates the lot area and lot circle for each detached (single family) residential zone which are the: R 9,600, R 8,400, R 7,200 and R 5,400d zoning classifications excepting the R 40,000

zoning classification which is not depicted due to space constraints. This illustration demonstrates the face that five lots can cover from 0.61 to 1.10 acre of land.

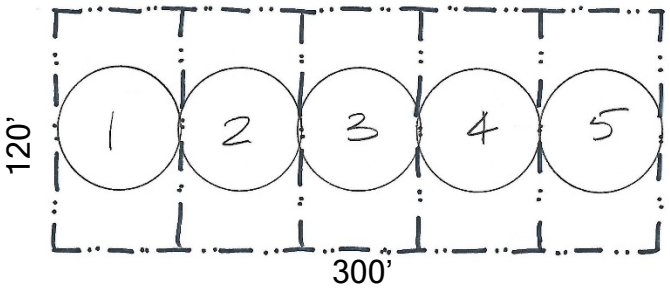
Figure 11 – Lot by lot areas and circles of the R 9,600, R 8,400, R 7,200 and R 5,400d zones



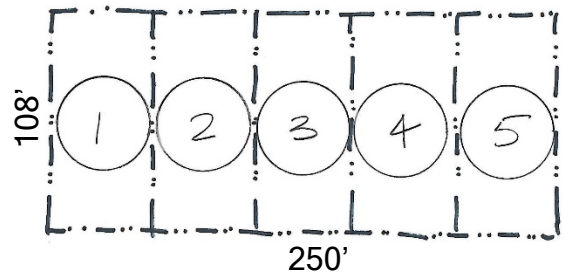
R 9,600
- 9,600 square feet
- 80 foot diameter circle
- 5 lots cover 1.10 acre



R 8,400
- 8,400 square feet
- 70 foot diameter circle
- 5 lots cover 0.96 acres



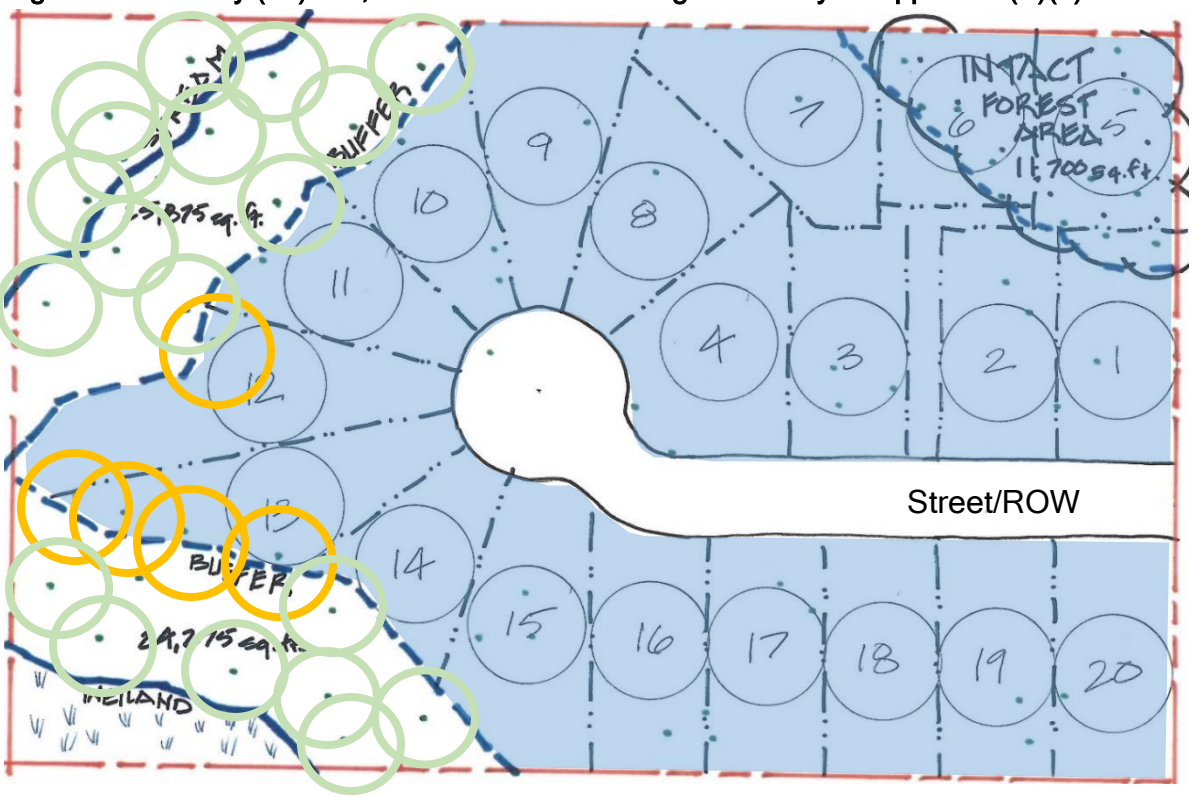
R 7,200
- 7,200 square feet
- 60 foot diameter circle
- 5 lots cover 0.82 acres



R 5,400d
- 5,400 square feet
- 50 foot diameter circle
- 5 lots cover 0.61 acres

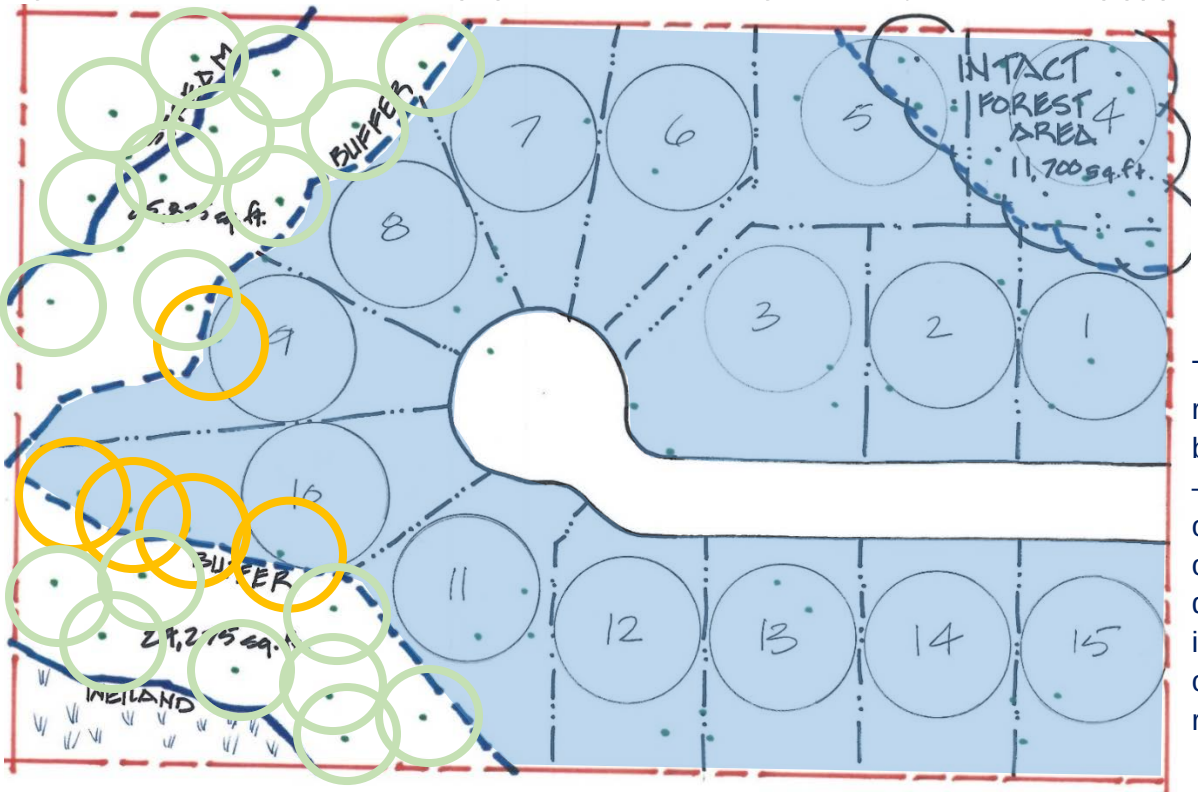
To attain the maximum number of lots, the current regulations require an applicant to fill as much of the net buildable area with lots and houses as possible. To preserve lands as open space, such as forest or mature vegetation that are not part of a critical area, an applicant would have to construct fewer lots. This is an unlikely scenario given the need for developments to provide for a return on investment and the City's minimum density requirements of BMC 12.14.030(B)(2). **Figures 12** and **13** show test site 1 utilizing the lot by lot layout approach under the R 7,200 and R 9,600 zoning classifications. The entire net building area is occupied with lots and houses.

Figure 12 – Twenty (20) R 7,200 lots achieved through the lot by lot approach (B)(4)'



Trees (5) required to be preserved – shown in orange (10% of the site diameter inches). All other trees removed

Figure 13 – R 9,600 Zone - Fifteen (15) lots achieved through the lot by lot approach (B)(4)



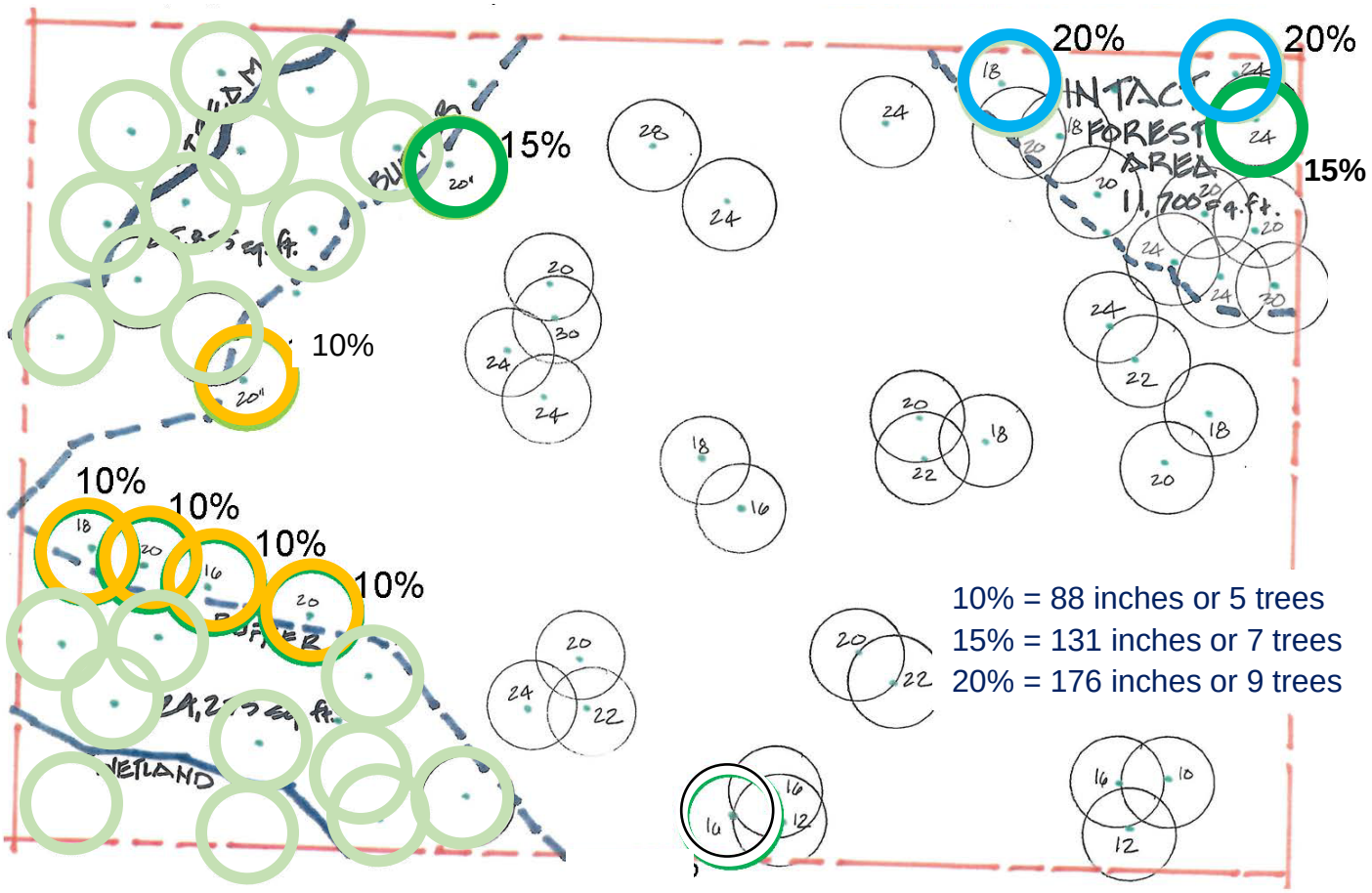
Trees (5) required to be preserved – shown in orange (10% of the site diameter inches) All other trees removed

15. **Tree Retention amendments**

According to the City's Development Services Manager (See **Exhibit 2**) the current tree retention provisions of 12.18.030 are not functioning as well as they should be due to a number of factors including the confusion over basing tree retention on the net buildable area of a site, not excluding dead or dying trees from the tree count, raising the minimum diameter inches percentage, and other needed amendments to clarify these provisions.

The illustrations below depict different scenarios of the current Tree Retention standards for the three test sites at different retention standards.

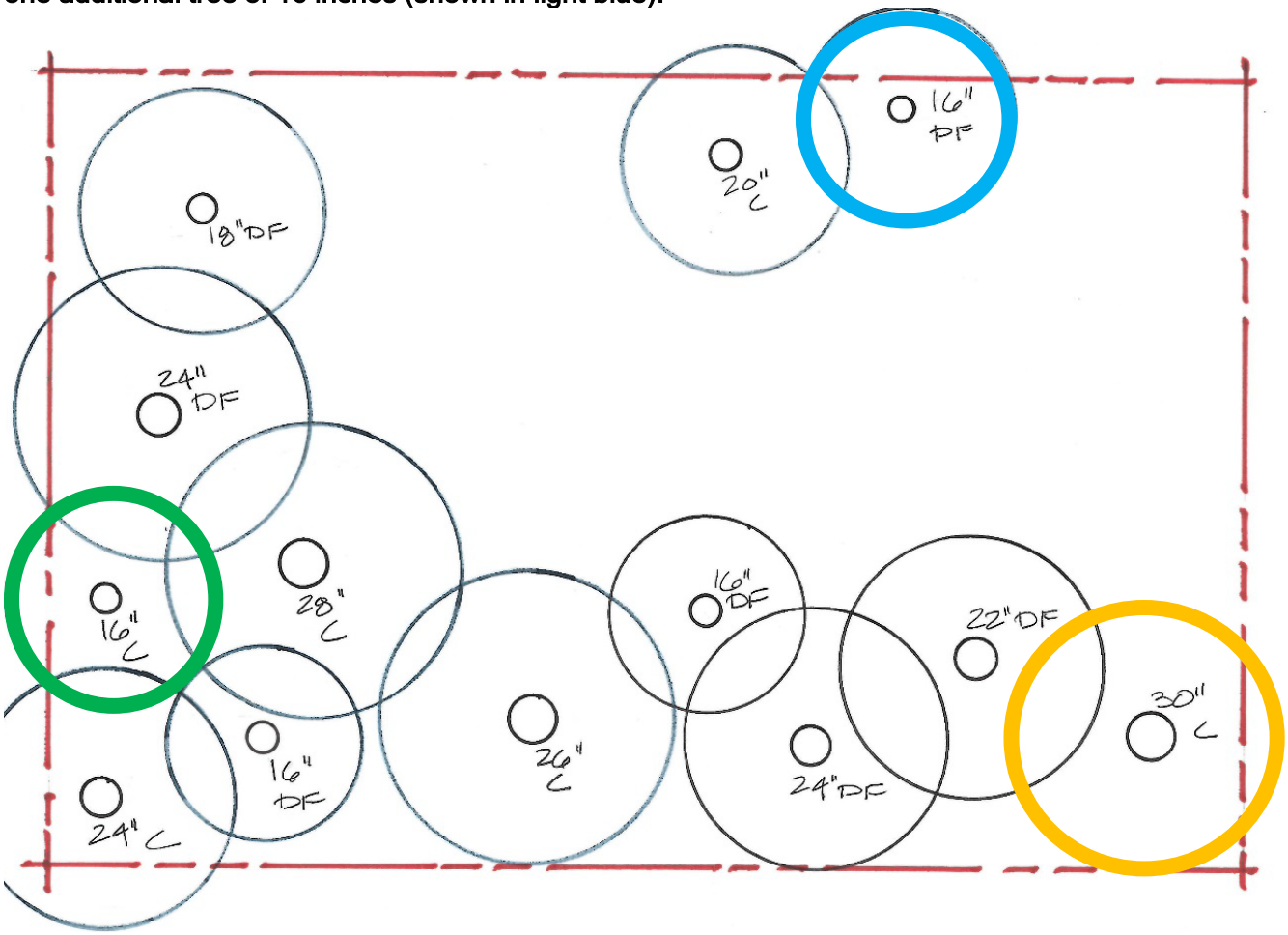
Figure 14 Test site 1 – 1,258 total diameter inches with 878 total diameter inches of trees located within the net buildable area. Illustration depicts tree retention at 10% (orange trees); 15% (orange + green trees) and 20% (orange + green + light blue trees) percent of tree diameter inches within the net buildable area. All trees within critical areas and buffers are retained.



The illustration above is important because it demonstrates the impact of increasing the tree diameter inches beyond the current maximum of 10 percent to greater percentages of 15 and 20 percent.

For the illustration above - a 10% tree retention requires 5 trees (orange) to be preserved; a 15% tree retention requires 7 trees (orange plus green) to be preserved; and a 20% tree retention requires 9 trees (orange plus green plus blue) to be preserved. For a site such as this where there are many trees capable of being retained, these different percentages can be readily accommodated.

Figure 15 Test Site 3 - 280 diameter inches of trees. 10% requires 28 inches or one (30-inch) tree (shown in orange); 15% requires an additional tree of 16 inches (shown in green); a 20% retention would require saving one additional tree of 16 inches (shown in light blue).



Test Site three. Orange 'tree' is a 10 percent retention – Orange plus green trees are a 15 percent retention – Orange plus green plus pale blue trees are a 20 percent retention.

The Planning Commission finds it interesting that, the number of trees retained is not substantially different between a tree diameter inches standard and a percentage of total trees saved standard. For example, Test Site 3 has 13 total trees within the net buildable area. 10% of 13 = 1.3 or 2 trees which is the same number of trees preserved through the site diameter inches approach. A 15% retention of 13 trees = 1.95 or 2 trees - again the same number of trees as the tree diameter inches approach achieves. Even at a 20% retention the number of trees retained remains equivalent at 2.6 or 3 trees retained. This is true of both 'test sites'.

The advantage of the tree diameter inches approach is that it tends to reward the preservation of the larger trees on a property because, a single large tree can meet the site's tree diameter retention requirement.

16. **Setting the Tree diameter retention percentage**

In reviewing the aerial photos of existing developments (**Figures 1** through **6**) and the illustrations (**Figures 14** and **15**) above which depict different tree retention percentages, the Commision notes the relatively small amount of tree retention the City currently employs. The Commission finds the amount of trees, or tree diameter inches, retained at the current 10 percent level in these developments is not

sufficient to achieve the policies of the Comprehensive Plan. Further if one 'projects' a 15 percent retention standard, a majority of the Planning Commission finds that a 15 percent retention is also not sufficient. The Commission understands the amount of tree retention is largely a subjective and aesthetic evaluation. However, it is important to note that Policy UD-P33 (See Finding 25 for more detail) identifies three purposes of tree retention:

"...retain the positive visual character of the landscape"

"…preserve and enhance the city's physical and aesthetic character"

"…minimize surface water runoff, prevent erosion and reduce the risk of landslides. [Emphasis added, partial]

Two of the three purposes are related to aesthetic and visual character evaluations. Accordingly, the Planning Commission finds that the appropriate level of tree retention should be 20 percent of the site's tree diameter inches for most locations within the City and 15 percent for areas the City desires to locate compact urban neighborhoods (activity centers, Downtown Subarea).

The Planning Commission recognizes the potential impact this retention percentage may have upon development potential and has purposefully crafted flexibility within the tree retention regulations to allow retention of smaller existing trees or allow new replacement trees in situations where retention may not be possible due to site conditions.

17. Compact urban neighborhoods

The Commission recognizes that there are certain locations within the City which are intended to serve as compact, walkable, urban neighborhoods. These types of neighborhoods are supported by a number of Comprehensive Plan Policies. However, the creation of compact neighborhoods can be in conflict with a desire to preserve existing trees because preservation of existing trees can interrupt the urban pattern (one of the design concepts of compact neighborhoods is to keep spacing between structures minimal to encourage pedestrian activity). In locations with zoning classifications of R-AC, DC, DN, or DT, the Planning Commission finds there is a need to be flexible in applying the tree retention provisions by reducing the amount of required tree diameter percentage retained from 20 percent to 15 percent. Also, such developments should have the ability to replace existing trees with new trees to because the loss of significant trees should be compensated for within these urban neighborhoods.

Accordingly, the Commission recommends a reduced tree retention percentage of 15 percent, crafting a specific tree replacement ratio, and a minimum plant size requirement for developments occurring within those zoning classifications. Such an approach would allow an applicant of a development within the City's activity areas to either preserve trees as identified, or replace those trees with large coniferous or deciduous trees.

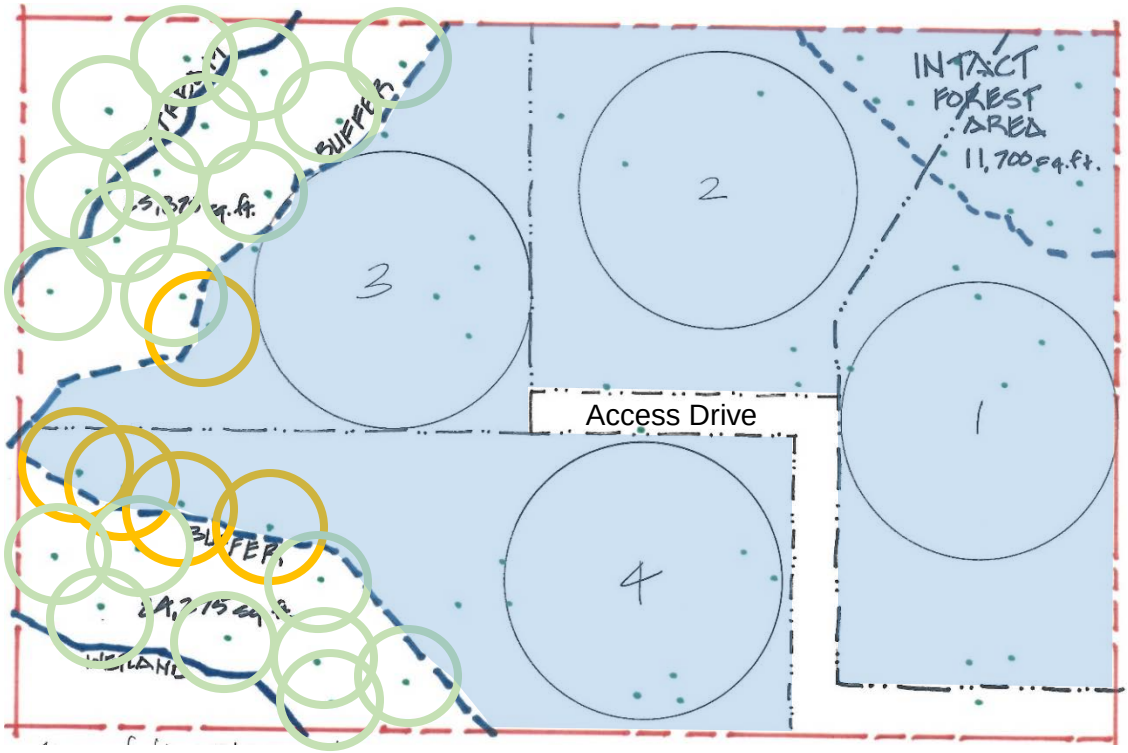
18. Clustering potential

Clustering is a land use tool that is used by several jurisdictions as a means of preserving portions of a property in an untouched or preserved manner. The basic concept of clustering is to reduce the development footprint of a given development as a means of preserving open space. Clustering is also recognized as a best management practice and is listed as an innovative land use technique under the Growth Management Act (GMA) of RCW 36.70A.090.

The potential of a clustering mechanism is shown in the following illustrations.

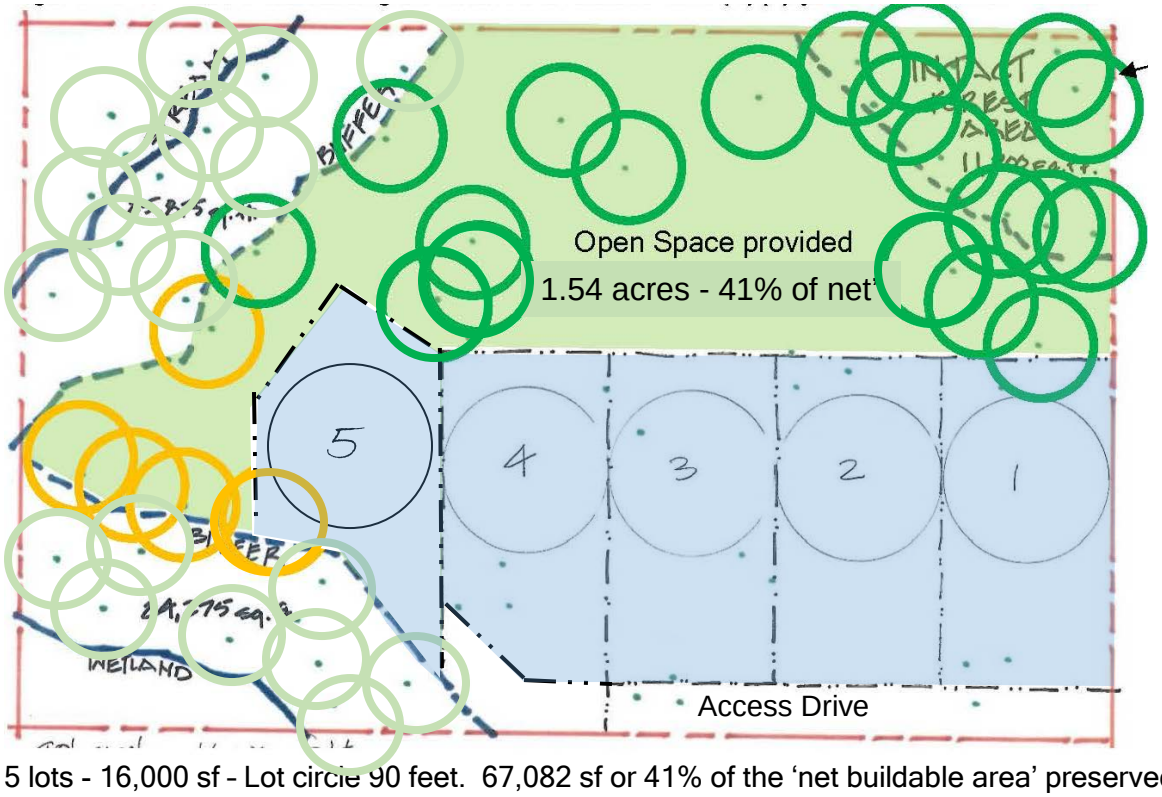
Figures 14 through 21 depict the application of the clustering mechanism as recommended by the Planning Commission.

Figure 14 – R 40,000 lot by lot layout (standard development)– 4 lots



Trees (5) required to be preserved – shown in orange (10% of the site diameter inches)

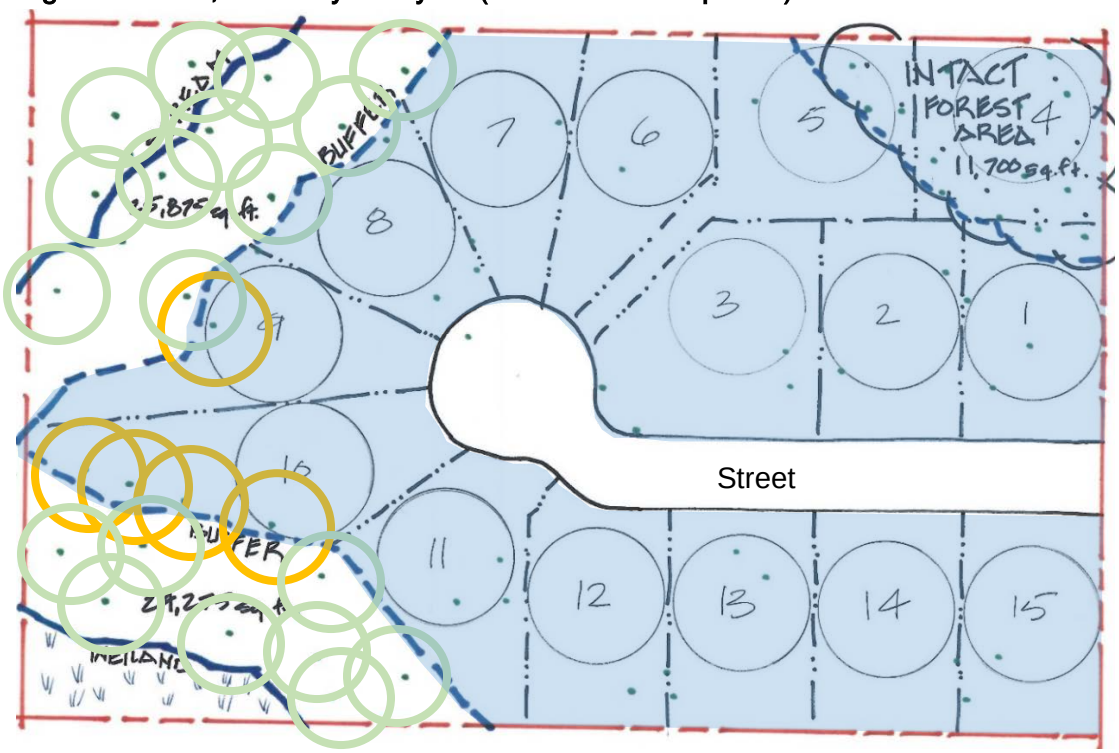
Figure 15 - R 40,000 Clustering at 60% lot reduction and (B)(3) yield calculation – with bonus equals 5 lots



Additional trees (22) preserved under the clustering proposal shown in green

5 lots - 16,000 sf – Lot circle 90 feet. 67,082 sf or 41% of the 'net buildable area' preserved as open space – project eligible for one bonus lot

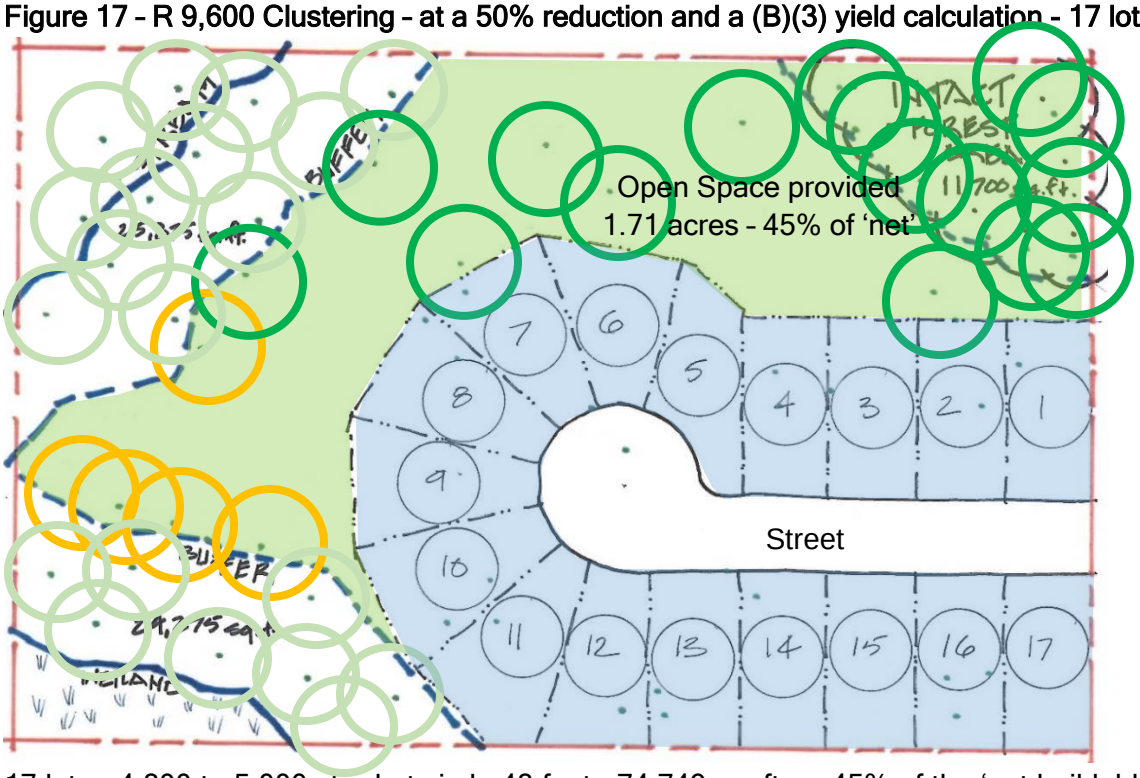
Figure 16 – R 9,600 lot by lot layout (Standard development) - 15 lots



Trees (5) required to be preserved – shown in orange (10% of the site diameter inches)

15 lots – R 9,600 sf and 80 foot lot circle

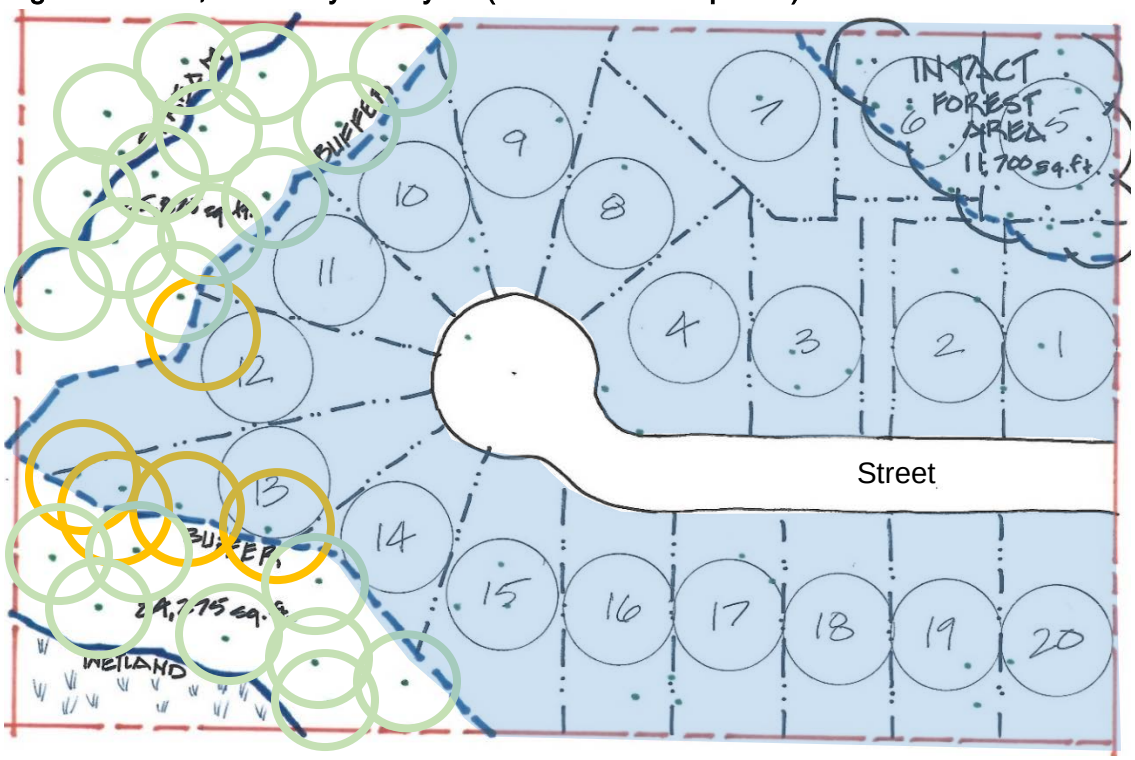
Figure 17 – R 9,600 Clustering – at a 50% reduction and a (B)(3) yield calculation - 17 lots



Additional trees (18) preserved under the clustering proposal shown in green

17 lots - 4,800 to 5,000 sf. - Lot circle 48 feet. 74,749 sq. ft. or 45% of the 'net buildable area' preserved as open space.

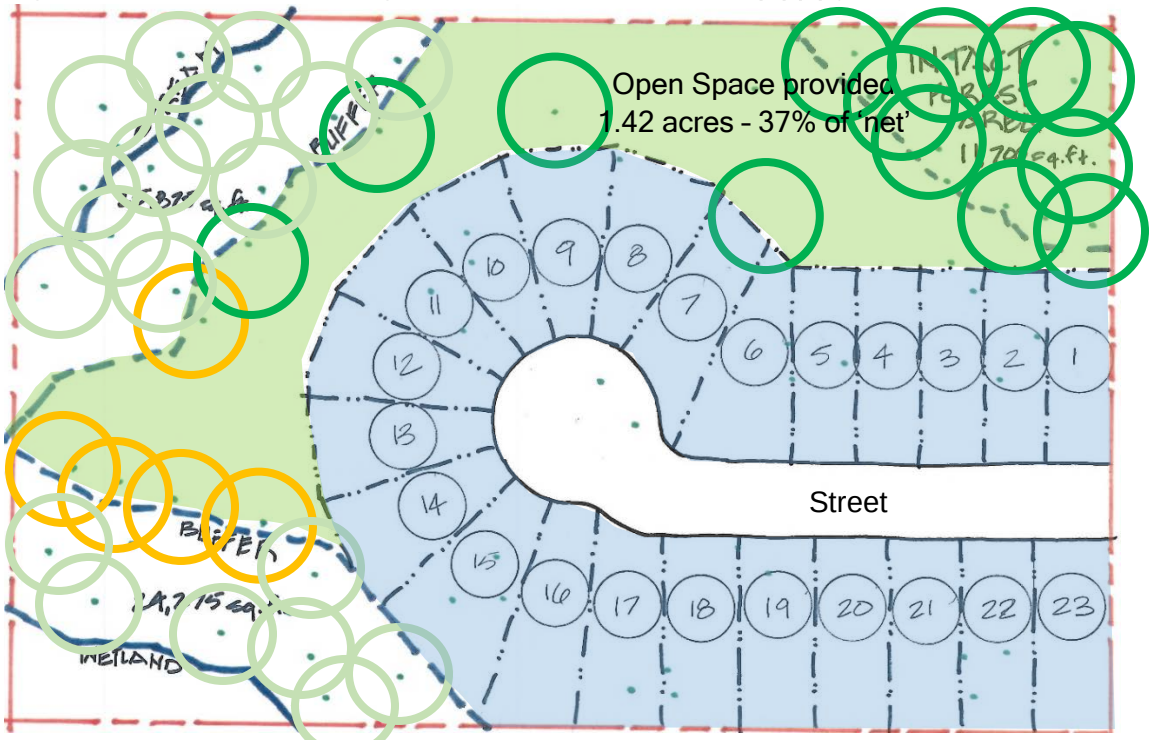
Figure 18 – R 7,200 Lot by Lot layout (Standard development) – 20 lots



Trees (5) required to be preserved – shown in orange (10% of the site diameter inches)

20 lots – 7,200 sf and 60 foot lot circle

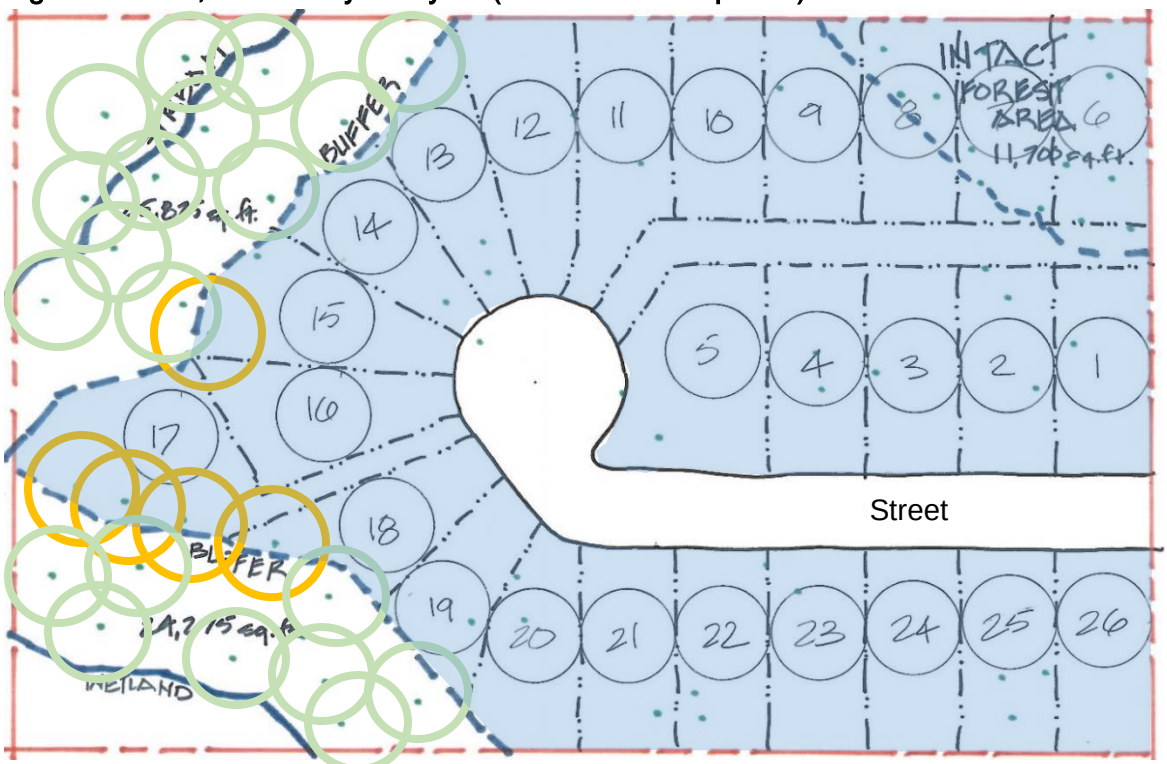
Figure 19 – R 7,200 Clustering – at a 50% reduction and a (B)(3) yield calculation - 23 lots



Additional (15) trees preserved under the clustering proposal shown as green circles

23 lots – 3,600 to 4,400 sf - 35 foot circle - 61,941 sf or 37% of the 'Net buildable area' is preserved

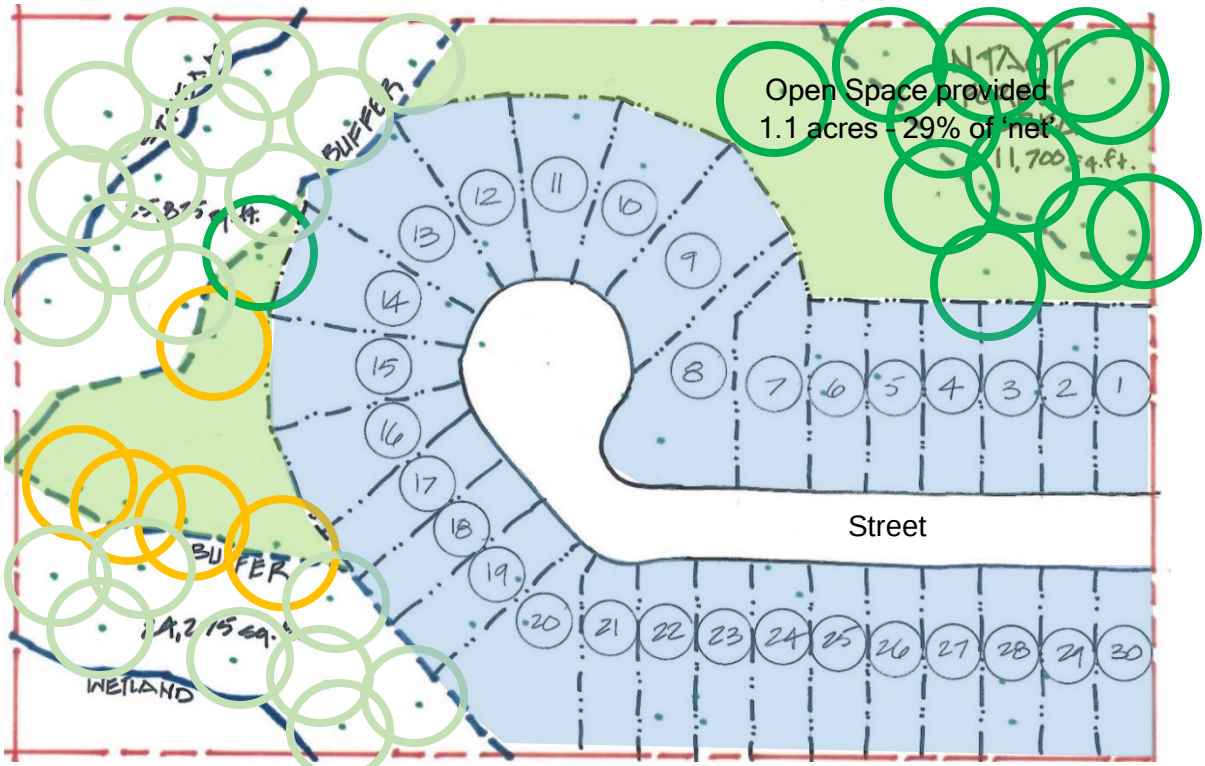
Figure 20 – R 5,400d Lot by lot layout (Standard development) - 26 lots



Trees (5) required to be preserved – shown in orange (10% of the site diameter inches) All other trees removed

26 lots – 5, 400 sf – 50 foot lot circle – No 'extra' open space provided

Figure 21 – R 5,400d clustering - 40% lot and circle reduction – (B)(3) yield calculation – 30 lots

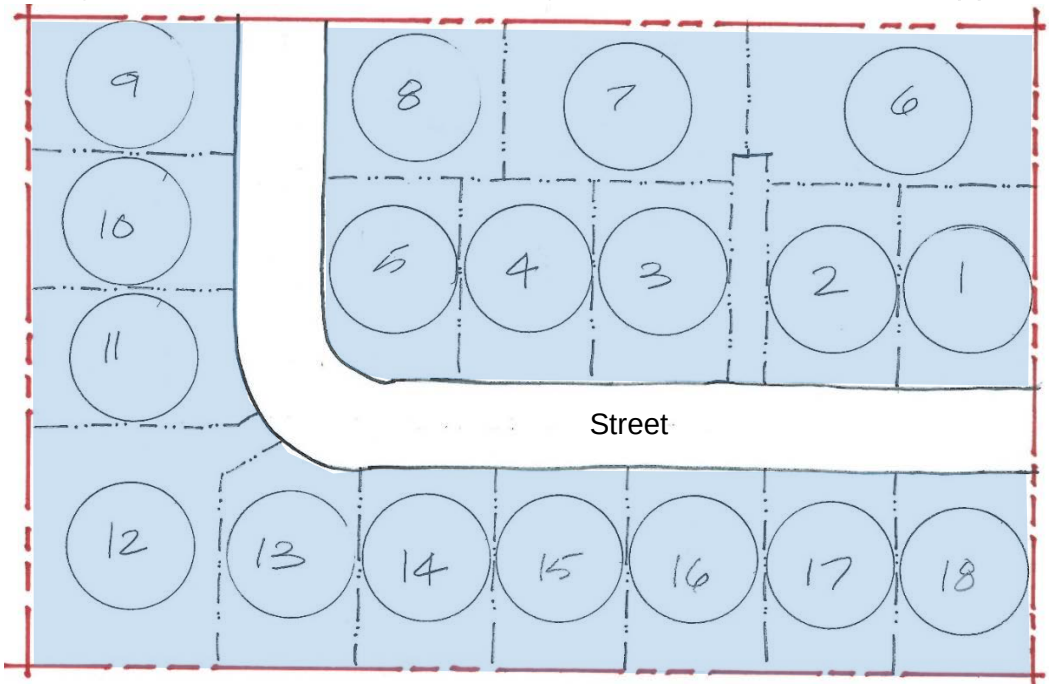


Additional (15) trees preserved under the clustering proposal shown in green

30 lots – 3,000 to 4,000 sf – 30 foot circle – 48,626 sf or 29% of the 'Net buildable area' preserved

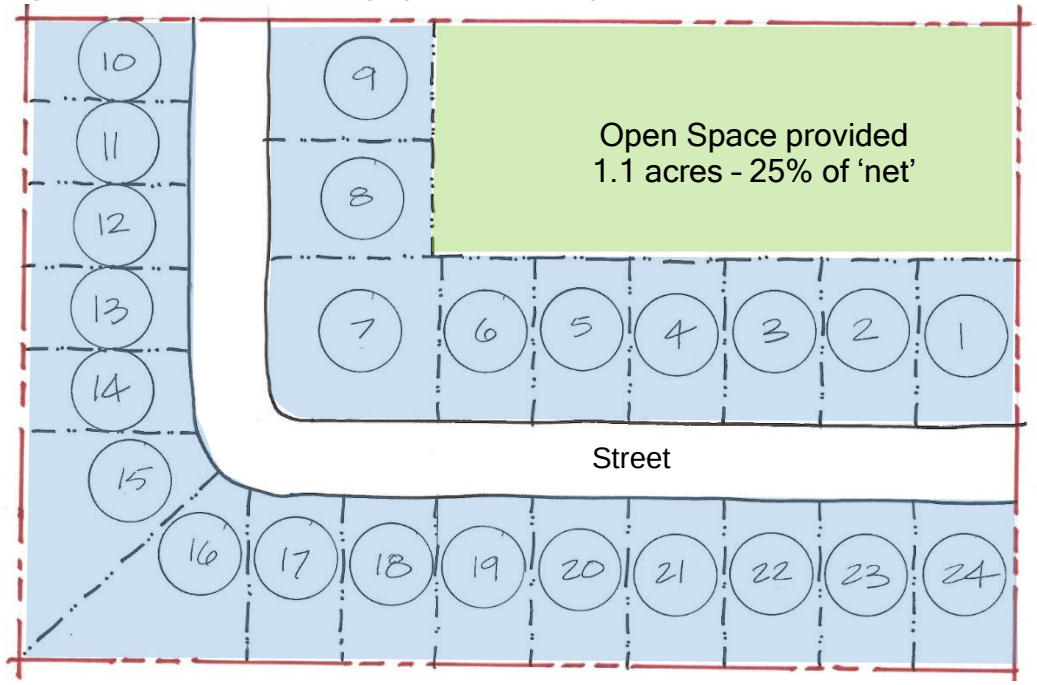
An understanding of how the clustering mechanism would be applied to the second test site is illustrated below.

Figure 22 – The Second test site Lot layout method of BMC 12.14.030(4) – 18 lots



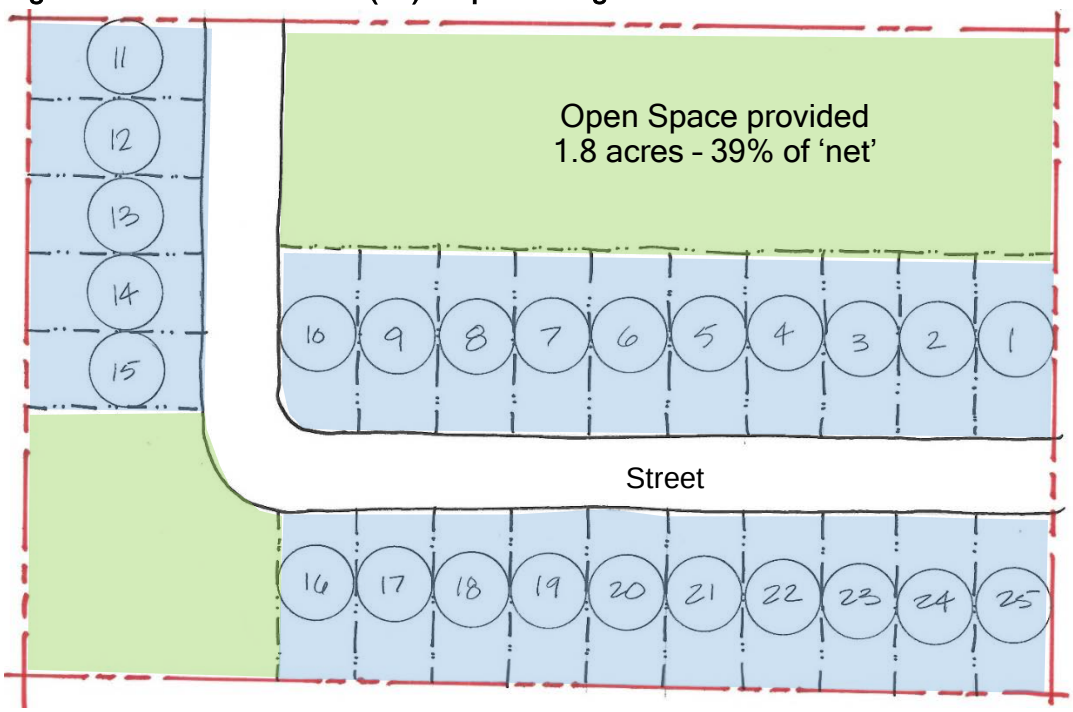
The right-of-way needed is 33,000 sq. ft. resulting in a net buildable area of 198,000 sq. ft.

Figure 23 - 20% bonus lots (+4) for preserving at least 25% of net site as open space



The net buildable area of 197,700 sq. ft allows 20 lots. With at least 25% open space preservation (49,550 sq. ft.) a 20% bonus lot increase or 20 X 20% = 4 bonus lots is possible. The lots in this illustration are 5,000 to 8,000 sq. ft. and the minimum lot circle is 50 ft.

Figure 24 – 25 % bonus lots (+5) for preserving at least 30% of the net buildable area as open space

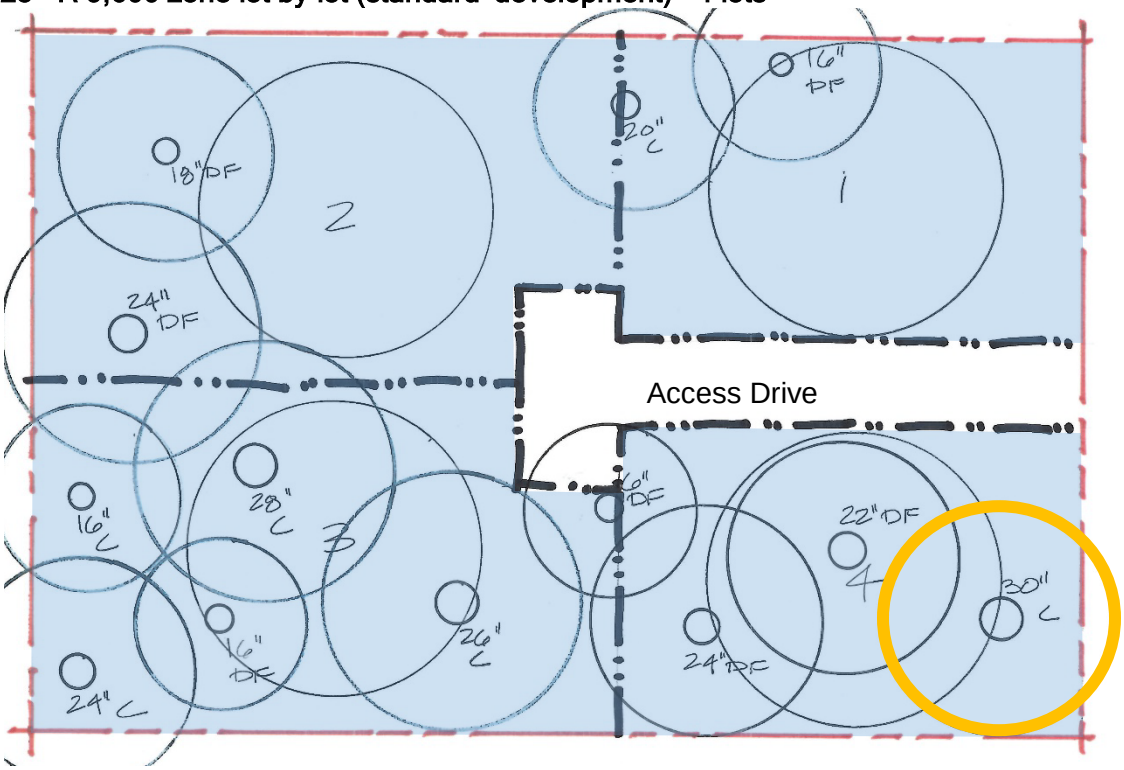


The scenario above has 33,075 sq. ft. of ROW resulting in a net buildable area of 197,925 sq. ft. The lot yield would be 197,925 ÷ 9,600 = 20. 6 or 20 lots. The development also preserves 78,710 sq. ft. of open space or 39% of the net buildable area. This development would be eligible for a density bonus of 25% of the lot yield (20 X 25% = 5) or 5 bonus lots.

Small sites

Staff also investigated the potential of small sites (less than 10 lots) to provide clustering as is demonstrated from the Third Test site illustrations below regarding an R 9,600 zoned property of 1.15 acres in area. The illustrated site below would utilize the 'rounding-up' incentive where 0.5 or more of a lot area could be credited toward lot yield. Those figures are on the next page.

Figure 25 – R 9,600 zone lot by lot (standard' development) – 4 lots



Trees (1) required to be preserved – shown in orange (10% of the site diameter inches) All other trees removed

4 lots of 9,600 sq. ft. and 80 foot lot circles, - one 30 inch Cedar satisfies the tree retention standards

Figure 26 – R 9,600 zone utilizing the incentives (25% increase with 30% open space) = 5 lots

Additional (7) trees (shown in green) preserved under the clustering proposal

5 lots of 5,100 to 5,400 sq. ft. 55 foot lot circles – 16,200 sq. ft. or 33% of site preserved as open space. Also, 144 diameter inches (52%) of diameter inches of trees preserved

19. Clustering need

As illustrated in the previous illustrations, the Planning Commission finds that clustering is an important component to preserving forest or other treed lands, reduces impervious surface cover, better accommodates the construction of LID facilities and preserves other types of open space areas which are not currently preserved under existing regulations. Clustering is also considered a best management practice by the Department of Ecology and is a recognized innovative land use technique under the Growth Management Act (GMA) (RCW 36.70A.090).

The Planning Commission finds that a clustering mechanism is a tree and open space preservation tool the City should employ.

20. Incentivizing Clustering

An important issue is how to ensure a clustering mechanism becomes an attractive option for the development industry. During the hearing process, the Planning Commission received testimony (both written and verbal) from representatives of the development industry, who expressed their support for a clustering mechanism and also testified that, for their industry, incentives need to be meaningful and predictable which, for those industry representatives who testified, is a bonus lot approach. It should be noted, however, that Industry representatives also spoke to their desire to preserve trees and other open spaces as an amenity for future residents and the greater community.

The City desires a clustering mechanism as a means of preserving open spaces, mature trees, and lands supporting small forests. There is also a strong community desire to preserve as much forest or treed lands as possible as the City grows, and a clustering mechanism is capable of achieving some of these desires. However, a developer would always have the option of simply constructing a 'traditional' subdivision of large lots, big houses, higher impervious surface coverage and little or no tree retention because this approach is both predictable and profitable. This is clearly not an outcome desired by the community as expressed within the *Imagine Bothell…* Comprehensive Plan Policies.

Accordingly, the Planning Commission finds that the best approach is to incentivize clustering as a way to encourage this innovative land use technique which will be used to preserve intact forest, mature trees and other types of open space. Further, it is logical to increase the incentives as the amount of preserved land is increased.

21. Planning Commission Findings - clustering incentives

Other jurisdictions offer incentives for a number of desired outcomes which have community benefits. Those incentives often involve bonus densities or lots when developments provide for site elements beneficial to the community including open space, parks, affordable housing, and other features. Bonuses range from 10% to 20% increases in density with some jurisdictions offering bonuses as high as 30% for some benefits.

The development community reported to the Planning Commission that it is the industries' preference to have bonus lots/units as the incentive because other types of incentives, such as expedited permitting, reduced impact fees, etc., are not as desirable as bonus lots. Further, the development community representatives identified that bonuses of 20% are meaningful and serve as a very real incentive. Staff offered a number of incentive options for the Commission to consider.

During the 2014 Fitzgerald / 35th SE Subarea Plan and Code amendments, the City Council crafted a sliding scale where increased incentives were provided for increased amounts of preserved open space. The Planning Commission believes that approach should also be taken for the City-side Clustering mechanism because such a system encourages greater preservation of lands, is easy to administer, and offers the type of incentive that developer representatives identify would be effective.

22. Incentivizing smaller sites

An important consideration is understanding the types of properties that are available for development within the different zoning classifications. The City's Geographic Information System (GIS) Staff analyzed the number, acreage, and number of parcels that are either 'underutilized' with one house on a property 1 acre or greater in area, and parcels that are vacant. GIS Staff then deducted all lands containing critical areas, critical area buffers, streets or other forms of right-of-way, slopes of 40 percent or greater, parks, and dedicated open space areas (includes the Wayne Golf Course as well as the DNR lands in the Shelton View area). The results of that analysis are contained below:

Table 1 - Vacant parcels

	Parcels 1 to 2 acres		Parcels 2 to 5 acres		Parcels 5 to 10 acres		Parcels 10+ acres	
Zoning	**Parcels**	**Acres**	**Parcels**	**Acres**	**Parcels**	**Acres**	**Parcels**	**Acres**
R 40,000	5	7.40	5	16.23	0	0.00	0	0.00
R 9,600	8	11.76	7	22.78	4	24.06	2	24.00
R 8,400	0	0.00	0	0.00	0	0.00	0	0.00
R 7,200	4	5.45	2	8.03	0	0.00	0	0.00
R 5,400d	0	0.00	0	0.00	0	0.00	0	0.00
Totals	**12**	**17.21**	**14**	**47.04**	**4**	**24.06**	**2**	**24.00**

Table 2 – Underutilized parcels

	Parcels 1 to 2 acres		Parcels 2 to 5 acres		Parcels 5 to 10 acres		Parcels 10+ acres	
Zoning	**Parcels**	**Acres**	**Parcels**	**Acres**	**Parcels**	**Acres**	**Parcels**	**Acres**
R 40,000	31	40.89	13	39.21	1	5.55	0	0.00
R 9,600	73	95.94	26	75.49	1	5.09	0	0.00
R 8,400	1	1.04	0	0	0	0	0	0.00
R 7,200	14	17.30	3	9.15	0	0	0	0.00
R 5,400d	1	1.03	0	0	0	0	0	0.00
Totals	**89**	**115.31**	**42**	**123.85**	**2**	**10.64**	**0**	**0.00**

These tables indicate the potential of smaller parcels to preserve open space because there is more acreage in the 1 to 2 acre vacant and underutilized parcels (132 acres) than there is in the 5 to 10 or more acre parcels (24 acres). At the proposed minimum open space preservation of 10 percent for clustered subdivisions, there is the potential for 13 to 26 acres of preserved open space from these 1 to 2 acre parcels.

The Planning Commission finds that extending the clustering mechanism to smaller parcels is an important consideration and finds that preserving even small amounts of open space can have a beneficial effect upon the preservation of trees and open space when measured on a city-wide basis. The issue is determining what type of incentive to apply to these smaller parcels. The City's Land Use Policy LU-P4 contains a provision that could allow rounding up within the development regulations.

A rounding-up table was prepared for the Commission which is provided below.

Table 3 – Rounding up potential

'Net area' (Acres) / Zone	1.0	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.5	4.0
R5,400	8.06	10.08	12.10	14.11	16.13	18.15	20.16	22.18	24.20	28.23	32.26
R7,200	6.05	7.56	9.07	10.58	12.1	13.61	15.12	16.63	18.15	21.17	24.20
R8,400	5.18	6.48	7.77	9.07	10.37	11.66	12.96	14.26	15.55	18.15	20.74
R9,600	4.53	5.67	6.80	7.94	9.07	10.26	11.34	12.47	13.61	15.88	18.15
R40,000	1.09	1.36	1.63	1.90	2.17	2.45	2.72	2.99	3.20	3.80	4.35

0.5 Rounding up resulting in an additional lot – 22 potential opportunities = 34%

This table indicates that the mathematics of the R 9,600 and R 40,000 zones achieve the 0.5 lot point at 1 and 1.5 acres, respectively. For example, if a rounding up provision were crafted as the incentive, within the R 9,600 zone a 'bonus lot' could be attained for a site as small as one acre (43,560 ÷ 9,600 = 4.53 or 5 lots). Within the R 40,000 zone a 'bonus lot' could be attained on an area as small as 1.5 acres (65,340 ÷ 40,000 = 1.63 or 2 lots).

The other option would be to apply the sliding scale of bonus lot incentives which starts at a 10% increase and ends in a 25% increase. The advantage of applying the same incentive mechanism to all clustered subdivisions is the ease of administration of the regulations and the confusion that would result with two different incentive options.

The 'small test site' of **Figure 26** depicts how the incentive could be applied to an R 9,600 site of 1.15 acres that provides at least 30% of the net buildable area as open space. Under that scenario, the development would be eligible for a bonus lot (25% bonus lots for 30% provided open space or 4 X 25% = 1 bonus lot + 4 'regular' lots = 5 total lots). **Figure 15** depicts how this approach could be applied within the R 40,000 zone. Again, at least 30% of the net buildable area is preserved as open space meaning a 25% bonus lot incentive is available.

While the total amounts of open space preserved by these individual scenarios may not be large from a community perspective, when compared to a 'standard' R 9,600 or R 40,000 zoned subdivision where no open space is preserved, the benefits to the neighborhood of having 16,200 sq. ft. and 62,082 sq. ft. respectively, of open space preserved in exchange for two bonus lots may be important to that neighborhood.

The Planning Commission finds that the best approach is to apply a single incentive mechanism to all clustered subdivisions as both a way to ease administration of these regulations and to encourage preservation of measurable amounts of open space.

23. Quantifying the impacts of the proposed 'bonus lot' incentives

Bonus lots could result in a greater number of lots than that which would be achieved if no incentives were offered. To understand the potential impact to the community of bonus lots, the Planning Commission applied the GIS analysis detailed in Finding 21 above to estimate the projected lots that could be achieved if <u>all</u> of the existing vacant and 'underutilized' parcels were to employ the proposed

clustering incentives. Such a scenario is very unlikely to occur, however, it is useful to understand the maximum impact of these proposed regulations.

Table 4 – Total amount of underutilized and vacant lands and number of projected lots by each single family residential zoning classification

Zone	Total Net[1] Acres available for development 2017	Potential lots under existing regulations – City-wide[2]
R 40,000	**124.57**	**135**
R 9,600	**360.53**	**1,635**
R 8,400	**9.02**	**46**
R 7,200	**56.15**	**339**
R 5,400d	**4.26**	**34**
Totals	**554.53**	**2,189**

1. Net means lands left after deducting critical areas and buffers and 10% of the area for right-of-way (streets) and slopes greater than 40 percent in gradient.
2. As of April 1, 2017 there are 18,004 existing single family residential structures within the City of Bothell

Table 5 – Potential lots under proposed incentives

Zone	Maximum bonus lots Under a 10% Bonus	Minimum amount of Open Space preserved (acres)	Maximum bonus lots Under a 20% Bonus	Minimum amount of Open Space preserved (acres)
R 40,000	+ 13	18.68	+ 27	31.14
R 9,600	+ 163	54.07	+ 327	90.13
R 8,400	+ 4	1.35	+ 9	2.25
R 7,200	+ 33	9.85	+ 67	14.03
R 5,400d	+ 3	0.63	+ 6	1.06
Totals	**+ 243**	**84.58**	**+ 436**	**138.61**

The above tables indicate that for an additional 243 to 436 lots spread across the 13.5 square miles of the City, there could be as much as 84 to 138 acres preserved as permanent open space.

To put these numbers into perspective, the latest official Office of Financial Management (OFM) population estimate for the City identifies that there are 18,004 existing single family residential structures (houses) within the City of Bothell. Together with the projected growth estimate of **Table 4**, it is estimated that a total of 20,193 lots either exist or are potentially possible under current regulations. The 243 and 436 bonus lots equate to a 1.2 to 2.1 percent increase in the number of existing and potential households within the City.

It is also important to make another comparison to demonstrate the costs associated with preserving open space. Currently, a partnership between the City, King County, Forterra, other agencies, and community members (One Bothell), are working to acquire the property known as the Wayne Golf Course as permanent open space. The estimated cost of this approximately 89 acres is an estimated $10 million. Another recent example is the acquisition of the last parcel for the North Creek Forest which was an 8.23 acre parcel which was acquired for $1.25 Million.

Under these potential Code amendments, it is possible the community could realize anywhere from 84 to 134 acres of open space as part of the development process at a potential 1.2 to 2.1 percent increase in the number of lots within the City of Bothell. Another way to measure this impact is from a population perspective which can be done by applying the City's average persons per household number of 2.8 persons. The 243 to 436 'bonus lots' results in an increase of 680 to 1,220 persons (or a population capacity increase of 1.1 to 2.0 percent.

The Planning Commission finds these increases are negligible when compared to the benefits which may be attained under these Code amendments.

24. Desire to use a tree canopy measurement approach to retaining trees

Support was expressed during public testimony to use a tree canopy measurement method to retain trees (**Exhibit 3** and **Exhibit 10**). The amount of suggested tree canopy cover was 45 to 55 percent which is based upon a tree canopy study performed by a company called Plant-it-Geo (**Exhibit 4f**). . There are many intriguing aspects to the use of a tree canopy approach to tree retention which the City may wish to explore in more detail. However, that type of switch cannot occur as part of this Code amendment process because: 1) that approach was not initiated by the City Council in its description of the scope and intent of this Code amendment as part of the 2016 and 2017 Docket; and 2) switching to a tree canopy measurement method is not consistent with current Comprehensive Plan policies.

The Planning Commission is not disagreeing with the request to investigate a tree canopy approach - it is simply that such a switch cannot occur as part of this Code amendment. There is a fundamental difference between a Comprehensive Plan amendment and a Code amendment. A Code amendment can only implement the Comprehensive Plan as it exists (See RCW 36.70A.040 (4)(d) "….development regulations that are consistent with and implement the comprehensive plan…") . Under current policies, the *Imagine Bothell…* Comprehensive Plan bases tree retention upon individual trees – not tree canopy (See LU-P4-16, "…coniferous trees against the sky…" "Such treed areas also provide habitat and retard erosion and runoff…" "Trees which constitute the feathered edge…" Finally, Policy UD P-27 refers to, '…protection of existing trees…' UD-P33 provides "…promote the protection of significant trees…" [Emphasis added, partial].

There is not, currently, an existing Comprehensive Plan policy that supports the use of a tree canopy measurement. Accordingly, the Planning Commission finds that a substitution from individual trees to a tree canopy measurement approach goes beyond the scope of this Code amendment and is not currently supported by the *Imagine Bothell…* Comprehensive Plan.

It should be noted that the Planning Commission supports an investigation of a tree canopy approach as a future Docket item.

25. Consistency with *Imagine Bothell...* Comprehensive Plan

These Code amendments are supported by the following Comprehensive Plan Policies:

> "LU-P4 The development potential of any individual property under the land use designations of this Comprehensive Plan shall be based on the net buildable area of that property, and shall be further subject to clustering, planned unit development and low impact development provisions, availability of necessary utilities, critical area regulations, impact mitigation, and other applicable development policies, regulations and standards. Net buildable area, for the purposes of this Comprehensive Plan, shall mean the gross land area, measured in acres, minus land area in roads and other rights of way, critical areas, critical area buffers, and land dedicated to the City." [Partial, emphasis added]

The proposed clustering Code amendments would utilize the Planned Unit Development process to review and adjudicate clustered subdivision PUDs consistent with the provisions proposed for BMC 12.30.

"LU-P6 Preserve the character of established neighborhoods and protect such neighborhoods from intrusion by incompatible uses. Infill development in established neighborhoods should be sensitive to and incorporate to the maximum extent possible those features which impart to each neighborhood a unique identity and sense of coherence. Examples of such features include a particular scale or style of housing, commonality in building materials (e.g. brick vs. wood siding), a predominant street pattern, a prevailing lot size and width, and similarities in landscaping from property to property."

The Planning Commission has proposed setback requirements to ensure that existing neighborhoods will be protected from potentially incompatible uses. This special protection is in the form of increased setbacks (up to 30 feet) whenever a clustered subdivision PUD would propose attached residential structures. The City-side Standard within BMC 12.14.070(A) requires a 25 foot setback.

Further, the Planning Commission is requiring that attached residential housing forms be subdivided into fee simple lots and that all attached structures comply with the attached residential design standards of BMC 12.14.180.

"LU-P11 Protect and preserve tree-covered hillsides and hilltops – particularly the feathered edge ridgeline image so valued by the community – for their visual and aesthetic benefits to Bothell, as well as for their functions as habitat, erosion control, and runoff retardation. See also Land Use Policy LU-P4, designation 16, Open Space. See **Figure LU-6.**"

The Planning Commission finds, that the tree retention and clustering mechanism Code amendments will facilitate this policy by allowing single family residential developments to cluster away from tree covered hillsides. Further, the Planning Commision is proposing enhancements to the Tree Retention standards that allow the Director of Community Development to implement minor site plan modifications to achieve certain tree retention objectives which include the preservation of the 'feathered edge'.

"NE-P13 Implement site design, construction and maintenance practices throughout the city that incorporate best management practices (BMPs) for fish and wildlife habitat preservation."

Clustering is a recognized best management practice within the Growth Management Act (GMA) RCW 36.70A.150. Further, this Code amendment compliments the Low Impact Development Code amendments and the adoption of the City's new Ecology-equivalent surface water manual enacted in 2016. The clustering mechanism Code amendments assists the City in the attainment of those actions and this policy.

"NE-P35 Encourage environmentally sensitive site design that respects existing topography, sensitive lands and critical areas, provides for retention of native vegetation, provides active and passive recreational open space and minimizes impervious surface coverage. The City should create special design and building standards based upon best management practices to protect hillsides from impacts associated with development on slopes."

This policy has been implemented through the amendments to the tree retention regulations (an increase in the amount of tree preservation is part of these amendments), and the implementation of a clustering mechanism which could result in substantial amounts of open space preservation throughout the City. Further, the Clustering mechanism proposes to implement many of the street and road infrastructure modifications (reductions) allowed for the Green Planned Unit Development as part of a clustered Subdivision PUD.

"NE-P39 Preserve the special ecological functions of hillsides by developing design and construction standards that help protect hillside ecological functions such as groundwater recharge, natural drainage courses, soil retention, and wildlife habitat and corridors."

This policy has been implemented through:

- The allowed reduction of street widths;
- The use of incentivized clustering to reduce the overall development footprint that may be placed upon a site.

NE-P25 Encourage low impact development approaches for managing stormwater, protecting and improving water quality, minimizing flooding and erosion, retaining native vegetation, reducing impervious surfaces, and protecting habitat. Low Impact development approaches should include clustering or Planned Unit Developments (PUD) that allow a reduction in the overall footprint of a development as a means of preserving native vegetation, reducing impervious surfaces, and accommodating more extensive surface water facilities, while attaining the number of lots or dwelling units established by the Plan designation. [Emphasis added]

This policy has been enacted within the clustering mechanism and tree retention and Code amendments, which use the PUD process to authorize a reduction in the overall development footprint of subdivisions across all single family residential zoning classifications. To encourage the use of clustering, the Commission also finds that an incentive program, in the form of bonus lots is an appropriate trade-off for the preservation of greater areas of open space and existing trees and vegetation.

UD-P33 Continue applying and refining regulations and programs to promote the protection of significant trees and groves in order to:

- retain the positive visual character of the landscape;
- preserve and enhance the city's physical and aesthetic character;
- minimize surface water runoff, prevent erosion and reduce the risk of landslides.

This policy is one of the main principles supporting the clustering mechanism and tree retention Code amendments and is briefly discussed in Finding 16 above. These potential Code amendments are intended to promote, through incentives and regulations, the type of site design that is described in this policy by allowing a reduction in the overall development footprint of single family residential developments and establishing a greater amount of tree retention (increase from 10% to 15% for activity centers and increase to 20% elsewhere) of the site's tree diameter inches.

26. State Environmental Policy Act (SEPA) Compliance – Tree Retention and Clustering Mechanism Code amendments

The SEPA Responsible Official issued a Threshold Determination evaluating the environmental impacts of this potential Code amendment that is based upon the Planning Commission recommendation on May 12, 2017. The comment period runs through May 26, and the appeal period

ends on June 2, 2017. The City Council will not act upon this Code amendment until the SEPA process is completed.

Conclusions

Tree Retention and Clustering Mechanism Code amendments

1. **Implementation of adopted Comprehensive Plan policies**
   The proposed Plan and Code amendments further the goals and policies contained in the *Imagine Bothell…* Comprehensive Plan and the Growth Management Act.

2. **Promotion of the public interest**
   The proposed Plan and Code amendments promote the public interest by providing zoning regulations for development while protecting the environment.

Recommendation

Based upon these findings and conclusions, the Bothell Planning Commission recommends the City Council APPROVE Code amendments to Chapters 11.02, 12.18, and 12.30 of the BMC as attached to these Findings.

David Vliet, Chair, Planning Commission

Paul Byrne, Legal Review